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THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

Federal Ownership and State Finances
GEORGE M. KEITH

Private versus Public Enterprise in Housing
WALTER S. SCHMIDT

Volume of Public Utility Financing
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THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

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THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

NOVEMBER 1935 VOLUME XI NUMBER 4

Federal Ownership and State Finances with Particular Reference to Railways

By GEORGE M. KEITH*

THE growth of Federal ownership may mean further curtailment of the taxing power of the states. For half a century or more "due process" has been a potent shibboleth in the hands of the courts to strike down ambitious innovations in taxation by state legislatures. Marked changes in tax systems and the development of new forms of taxation have had to be undertaken while keeping a wary eye on the possibility of failure to take the constitutional hurdle of "due process." The time may be approaching when state taxing authority finds "the power to tax is the power to destroy" fully as effective a curb on the garnering of state and local tax monies.

In his first report as Federal Railroad Coordinator, Mr. Joseph B. Eastman sketched the complexity of the problem encountered in attempting to bring order out of the chaotic and in some respects decadent steam railway system of the United States. Mr. Eastman's second report suggests three general possibilities: (1) the Government to help the carriers clean house; (2) the Government to compel the carriers to take action; and (3) the Government to take over the railroads and operate them as public utilities. The second is rejected as being neither feasible nor desirable. The first is recommended for the time being at least, not with the expectation that it will be successful but to give private ownership of the railways one more chance to make good by extending the period of probation. By process of elimination, the third alternative is expected to become the ultimate choice.

Commissioner Eastman has long been an advocate of Government ownership. His recent reports are not so outspoken in its favor, but he still indicates adherence to his belief in its desirability. He expects Government ownership to secure economical operation, eliminate wasteful competition, and facilitate orderly development of national resources.

* Supervisor of Pensions, State Pension Department of Wisconsin.

Public ownership is admitted to contain "the greatest potentialities of good and at the same time the greatest possibilities of harm."

The first report considered the possibility of operating the railway net of the country as a unit by incorporating the various existing systems into a single great corporate property with the Government owning the controlling stock interest.[1] The bill recently introduced by Senator Burton Wheeler of Montana proposes to incorporate this idea into law.[2] Although still a remote probability, Federal ownership of railways suggests many problems in state finance meriting some anticipatory study.

Some Broad Implications

Unification of the important railways of the country into one operating mechanism would likely mean the discontinuance of uneconomical and circuitous routes, abandonment of deficit-earning short-line appendages, and elimination of costly duplication of facilities. In a comparatively short time such changes would affect the finances of state and local governments. The tempo of economic life in some sections may expect a sudden impetus because of the removal of rate discriminations or as a result of the concentration of railway services and industries. The localities deprived of favorable rates, or railway service, or of terminal shops must suffer.[3] The slowing down of business means a loss of value of business and residential properties. The loss of jobs by railway workers means an acceleration in the decline in values, together with a shrinkage in governmental revenues. Tax receipts will decline. Bond values will slump, but the need for money will be greater, if anything. The workers and their families, suddenly deprived of their wonted livelihood, are likely to become applicants for relief. During the transition period, while these people are making a vocational adjustment, public finances may be subjected to an increased strain. As the people move to other localities in order to secure employment in the railway industry and as they find new methods of making a living, the strain may gradually ease. The status of these people would closely resemble that of the stranded population for whose rehabilitation various relief measures are now being carried on.

In centuries past, other trade centers have declined in importance or disappeared when transportation routes have moved away. Numerous small villages and hamlets have been feeling the same effect as the program of highway improvement has diverted business to the larger trading centers. Fear of the consequences of disturbing established trade routes was evidenced in the Senate debates over the St. Lawrence Waterway Project as senators from New York and the lower Mississippi Valley sought to defeat the project and so protect established trade routes and centers.

Tax Proposals of the Eastman Report and the Wheeler Bill

The first report of the Coordinator did not pay particular attention to the matter of taxation under Federal ownership. A brief discussion of the question was premised on the assumption that the railways would be incorporated as the United States Railways. This corporation would pay taxes to the Federal Government as do roads operating under

[1] *Report* of Joseph B. Eastman, Federal Coordinator of Transportation, issued January 20, 1934, p. 30.

[2] Bill S. 2573, 74th Congress, 1st Session.

[3] See Atterbury, W. W., "Railroad Consolidation," 171 *Annals of the American Academy of Political and Social Science* 166, 170-1 (January, 1934); also Johnson, Emory R., "Problems of Government Ownership and Operation of Railroads," *Ibid.*, p. 180.

private ownership. States and municipalities would also be allowed to levy taxes provided their governments could agree on a uniform taxing system acceptable to the Trustees who would be the managerial heads of the United States Railways.[4] The Wheeler Bill is more specific in this connection. It is proposed to exempt from all state and local taxation (except surtaxes, estate, inheritance, and gift taxes) all debentures and contingent securities issued by the United States Railways. Their properties owned or used, including franchises, capital reserves, surplus, and income, are to be exempted from all state and local taxation except that real and personal property may be subject to state or local taxation at the same rate according to value as other real and personal property is taxed.[5]

The Legal Precedent

Ever since Chief Justice Marshall's opinion in *McCulloch* v. *Maryland*[6] that "the power to tax is the power to destroy," the states have been circumscribed in their powers of taxing Federal instrumentalities. The states have been unable to levy property taxes on Federal properties. In turn, the Federal Government has been unable to tax state governments and their subdivisions. Recognition of the doctrine of states' rights by the Federal Government and compliance with the Federal Constitutional requirements have resulted in inability to impose an income tax on recipients of state and municipal government salaries and of interest upon obligations issued by those governmental units. The states, in turn, have been stopped from imposing property taxes on holders of Federal securities and income taxes on recipients of salaries or interest from the Federal Government. The remarkable increase during the past two decades of evidences of governmental obligations has allowed an immense amount of wealth, or the income representative of such wealth, to escape either state or Federal taxation or even both. With the outpouring of securities to finance the New Deal and with more in prospect, the problem of establishing an equitable system of taxing owners of government securities is of prime importance. It cannot be treated here although proposals such as are contained in the Wheeler Bill ally it with the topic under discussion.

Analogy from Other Federal Projects

RFC Holding of Bank Stocks. Up to the close of business on December 31, 1934 the Reconstruction Finance Corporation, pursuant to the grant of powers by the Emergency Banking Act, had made the following commitments:[7]

	Amounts of Purchases Authorized	Amounts Actually Purchased
Preferred stock..	$776,469,240 (3,913 banks)	$592,000,545.90 (3,207 banks)
Notes and debentures....	426,019,800 (2,781 banks)	325,346,800.00 (2,490 banks)

The act establishing the RFC exempted any and all notes, debentures, bonds, or other such obligations issued by the Corporation both as to principal and interest from all Federal, state, or local taxation except surtaxes, estate, inheritance, or gift taxes—the same provision which appears in the Wheeler Bill. The Corporation itself, including its franchises, capital, reserves, surplus,

[4] *Report* of Joseph B. Eastman, Appendix 2, Tentative Plan for Public Ownership and Operation of Railroad Systems of the United States, p. 3.

[5] Section (5) (g) of the proposed Federal Railroad Acquisition Act of 1935.

[6] 17 U. S. (4 Wheaton) 316 (1819).

[7] 74th Congress, First Session, Vol. 79, pp. 1306-7.

and income, is exempted from all taxation now or hereafter imposed by the United States or any state or local taxing authority except that real property may be taxed to the same extent according to its value as other real property is taxed.[8]

Illinois is an example of a state attempting to tax banks by assessing their stock and imposing the same tax rate that other general property bears. The Continental Illinois National Bank and Trust Company sold $50,000,000 of preferred stock to the RFC. Even though assessed at only $18,500,000 (or 37% of its face value), ownership of this amount of stock by an individual would require the payment of $400,000 to $500,000 property tax. Under the doctrine of *McCulloch* v. *Maryland* and in combination with the express exemption in the law, no personal property tax can be imposed.[9] The only property tax is on realty.[9a]

Since 1927 Wisconsin has allowed localities to tax real property of banks, while the state levied a corporation income tax on the net income of the banks. California and New York have also exercised this same alternative permitted by Section 5219. Any state taxation of owners of bank stock by an income tax on dividends received therefrom, an alternative also granted by Section 5219, seems to be clearly prohibited by the Reconstruction Finance Corporation Act as well as by the National Banking Act of 1863. Whether Wisconsin, New York, and California are similarly limited to real property taxation is not so evident. The Federal Government has invested in banks hitherto privately owned. Since this capital has been allied with that of individuals, the RFC's share of the bank income is in theory not segregated at the time the corporation income tax is determined and no discrimination can be alleged. As more and more Government money is poured into various industries, the question of the limits of state taxing authority will acquire added significance.

Federal Land and Credit Banks. A somewhat analogous situation has prevailed in the case of the Federal Land Banks, Federal Intermediate Credit Banks, and National Agricultural Credit Corporations. Exemption from all Federal, state, municipal, and local taxation except for taxes upon real estate was given to Federal Land Banks and national farm loan associations. The exemption included their capital, reserve, surplus, and income derived therefrom. First mortgages executed to and farm loan bonds issued by these institutions were declared to be Federal instrumentalities so that the bank and the income received by it were exempted. Shares in a joint stock land bank were made taxable as personal property by the taxing authority of the state where the bank was located. The assessment of such taxes was required to be made in accordance with the provision of Section 5219.[10] Later acts contained practically identical provisions exempting security issues by declaring them to be Federal instrumentalities. Owners of shares were allowed to be taxed only the same as other competing monied capital.[11] All these banking acts created

[8] 72nd Congress, Public No. 2, Section 10, entitled the Reconstruction Finance Corporation Act, approved January 22, 1932.

[9] See article "Banks' Capital Cuts Will Slash Taxes Millions," *Chicago Tribune*, March 29, 1934, p. 29.

[9a] The weight of court decisions is against the state's power to tax RFC stock. Kentucky and Maine courts have so held. A recent Maryland opinion held the opposite, but this decision has been appealed to the Supreme Court.

[10] 64th Congress, Public No. 158, Section 26.

[11] 67th Congress, Public No. 503, Federal Farm Loan Act, Title II, Section 210; *Ibid.*, National Agricultural Credit Corporation, Section 211.

additional categories of tax-exempt securities and increased the limitations on state taxing powers. From the National Banking Act to the RFC the doctrine of *McCulloch* v. *Maryland* has shielded increasing amounts of capital from state taxing powers.

Federal Ownership of Land. The most important landowner in the nation has always been the Federal Government. In spite of giving away an empire to settlers and railways as a developmental incentive, there still remains a vast area of mountain, forest, and mineral lands to which title has not been divested at any time. In times past the western states, in particular, have complained that these great areas within their borders were not required to contribute to the cost of maintaining state or local governments. During more recent times the Federal Government, with its policy of grants-in-aid, has spent more within boundaries of certain states than was derived from them directly in the form of taxes and excises. This has led the wealthier eastern states to apply to their less affluent sisters the term of "parasite states." Where the Federal Government has continued uninterruptedly to hold properties since they were first acquired, it has never felt any obligation to allow the states to tax such properties or to grant aids to the states in lieu of taxes. A different problem has arisen in more recent years with the expansion of the conservation program which has included acquisition by the Federal Government of large and fairly compact areas of cut-over and waste lands for reforestation purposes and the creation of national forests. This problem has not been confined to any one state but has been of greatest scope in the Pacific and Rocky Mountain States and in the Great Lakes States of Michigan, Minnesota, and Wisconsin. In the northern part of the last named state five National Forests have been established under the Weeks Law.[12]

Area	Total Acreage Approved for Purchase June 30, 1931	Acreage Acquired as of June 30, 1933*	Acreage Approved but not Acquired
Wisconsin Total...	222,486	114,999	107,487
Flambeau.....	104,093	36,927	67,166
Moquah.....	66,613	38,047	28,566
Oneida.....	51,780	40,025	11,755

*By June 30, 1934 two new national forests, the Chequamegon (362,660 acres) and the Nicolet (375,250 acres), were added.

As of June 30, 1933 forest lands owned by the Federal Government in national forests amounted to 162,591,124 acres.[13] Of all money received from each forest reserve during a fiscal year, 25% is to be paid at the end thereof to the state or territory where the reserve is located and the monies so paid are to be expended as the legislature may direct for the benefit of public roads and schools of the counties where such reserves are located.[14] A later statute appropriated an additional 10% of all money received from the national forests to be expended by the Secretary of Agriculture for the construction and location of roads and trails within the national forests in the states from which the proceeds come.[15]

For the fiscal year ending June 30, 1934 the gross receipts from the national forests were as follows:

From the use of timber.....	$1,522,356.19
From the use of forage.....	1,358,688.01
From special land uses, water power, and miscellaneous..	433,647.14
Total.....	$3,314,691.34

[12] 36 Stat. 961, March 1, 1911.

[13] *Report* of the Forester to Secretary of Agriculture, 1934, p. 12 (U. S. Government Printing Office, 1934.)

[14] 35 Stat. 260, Sec. 500, Title 16 U. S. C., May 23, 1908.

[15] 37 Stat. 843, Sec. 501, Title 16 U. S. C., March 4, 1913.

During 1934 the states in which national forests are located were paid $846,104.78 under provisions of the Act of May 23, 1908. Included in this amount were payments of $23,242.59 to Arizona and New Mexico on account of school lands administered by the Forest Service.[16] During the fiscal year 1935 the sum of $329,144.87 was allotted to the various states as 10% of the revenues from the forests to be devoted to building roads and trails.[17] While not an appreciable portion of Federal expenditures, these sums indicate a trend. If Federal forests are greatly expanded and more prosperous times come again, the amounts turned over should be considerably greater.

In discussing the relationship of Federal forests to finances of the state and local governments where such forests are located there has been no intention of drawing too close a parallel with the problems that may arise with Federal ownership of vast power projects and more especially of the railways. The policy as regards the forests is not one of permitting state taxation. Rather it is something akin both to grants-in-aid and to partnership profits. The Federal Government creates national forests and carries on a comprehensive policy of reforestation, fire protection, road building, game and fish propagation, pasturage, and cutting of mature timber. From such a system the state and local governments are expected to profit indirectly through the provision of work for citizens and the creation of new industries associated with forests, such as woodworking, recreation, and stock raising, rather than directly through the levying of property taxes or the taxing of revenues under sales or income taxes as would be done with a privately owned industry carrying on a like development. Such a policy can at least be defended, if not fully justified, because it does — when successful — widen the tax-base and thus mitigate the burden imposed on everyone in that governmental area from the initial withdrawal of property from the tax-base. The same general policy seems to prevail in the initiation and carrying on of the vast power projects either under way or under consideration at the present time.

Federal Power Projects: Tennessee Valley. Oldest in point of initiation are the Muscle Shoals and Norris Dam projects in Alabama and Tennessee. Originally the Muscle Shoals plant was intended to be a producer of nitrates for munition manufacturing purposes, but the World War ended too soon and technological discoveries in the field of nitrate production shortly thereafter made the project obsolete in that field. After being used as a political football for nearly a decade, it received the Presidential benediction under the New Deal and is once more going forward, this time as a conservation and power production project.

As might be expected, Tennessee and Alabama may hope to profit principally by the attraction of new industries and the creation of new wealth which can serve as a tax-base if need be. In addition, the two States are expected to receive revenues more directly. The body responsible for the success of this project is the Tennessee Valley Authority. The State of Alabama is to receive 5% of the gross proceeds received by the Authority from the sale of power generated at Wheeler Dam or from any other hydro-power plant constructed in that State in the future. Tennessee receives a like percentage of the gross proceeds from the sale of power generated at Norris Dam and any other hydro-

[16] *Report* of the Forester, 1934, *op. cit.*, p. 50.
[17] *Ibid.*, p. 35.

electric dams located within her borders. The Authority also has power to erect dams on the Tennessee River and its tributaries for flood control. In cases where this is the main purpose and electrical power is incidental thereto, the two States are each to receive 2½% of the gross proceeds derived from the sale of such incidental power. The proceeds to which these percentages are to apply are not to include what is realized from the sale or delivery of power to the Federal Government or to any department or agency of the Federal Government, or for operation of locks on the Tennessee River, or for experimentation, or for other governmental purpose. Whether these last phrases will exempt proceeds from sale of power to the model cities and villages and farms sponsored by the Authority does not appear. Nor is it clear whether "any other governmental purpose" includes sale of power to municipally owned power plants. If that were true, the States would stand to realize a percentage on a comparatively small part of the total proceeds.

The TVA is given authority to change the percentages of gross proceeds to be paid to Alabama and Tennessee. When approved by the President, such changed percentages are in effect until the Board revises them, although such changes can be made no more frequently than once in five years and then only when the two States are given a chance to be heard.[18]

The foregoing provisions are closely akin to the gross receipts tax imposed on railroads or public utilities in many states. Its merits will be considered later in connection with the question of state taxation of Federally owned railroads. As will soon appear, this is the closest that the Federal Government has come or proposed to come to allowing states to tax the income or property of Federally owned projects. In fact, the gross receipts tax has upon occasion been held to be a property tax.[19] Although repeatedly so held by the Minnesota courts, the same view has not found widespread acceptance.

The view as to the proper policy to be adopted with respect to taxes on publicly owned enterprises has been stated by one of the Directors of the T. V. A.:[20]

"The principle, as I see it, can be worded in this way: A public power system should bear the burden of taxes which it would pay if it were privately owned. A public power system should contribute its share of taxes to the general fund."

The Public Service Commission of Wisconsin has followed this policy for a number of years. Most municipally owned utilities have accepted the principle and practice it.

The Valley Authority's projected policy in this connection had already been published in a statement pointing out that the only taxes it has to pay are to Alabama and Tennessee to the extent of 5% of annual operating revenues:

"But to make fair comparison in our computations we have set up as expense an additional percentage of gross revenues which with the 5 per cent actually payable, will equal the national average per cent of gross revenues which private utilities pay in taxes, local, state and Federal."[21]

The Tennessee Valley Authority seems to be the only one of the four large power projects, either in progress or being contemplated, which has to make to the states or local governments anything in the way of annual payments properly classifiable as taxes. Even so,

[18] Public No. 17, 73rd Congress H. R. 5081, creating Tennessee Valley Authority, Section 13.

[19] *State v. U. S. Express Company*, 114 Minn. 346 (1911).

[20] David E. Lilienthal, Director and General Counsel of Tennessee Valley Authority, Address before Rotary Club of Memphis, October 17, 1933, p. 5.

[21] Tennessee Valley Authority, News Release for Papers, September 15, 1933.

greater financial benefits to the states are expected to come from the creation of additional taxable wealth within their borders. That theory is even more marked in the case of the Boulder Dam, St. Lawrence Waterway, and Columbia River developments.

Colorado River. Arizona and Nevada are virtually established as partners with the Federal Government in the profits derived from the project. This is in addition to the water allotted to those two States and to California for irrigation purposes.[22] In Section 2b of the Act, $165,000,000 is appropriated for the Boulder Canyon Project of which $25,000,000 is for flood control, to be repaid out of the share of the Federal Government in what might be called the "profits" from the project. Out of revenues derived from the sale of water power or electrical energy at the dam, operating expenses, interest at 4% per annum upon amounts advanced and remaining unpaid, and the annual amortization charges to repay all amounts advanced from the Boulder Canyon Project fund within 50 years must first be met. If there is any surplus during any year of the amortization period, 62½% of such surplus is to be used to repay the $25,000,000 expended for flood and water control purposes, and the remaining 37½% is to be divided between Arizona and Nevada in equal shares of 18¾%.[23] This is what was meant by the previous statement that the two States share in the "profits."

Columbia River. A very similar procedure is a feature of the proposed Columbia River Development Act.[24] The bill proposes to appropriate $319,000,000 for this project, of which all but $16,000,000, which is to be allocated for improvement of navigation, is to be amortized in 50 years under the same system as is employed in the Boulder Canyon Project. Out of any surplus in any year, over the costs of operation, interest, and annual amortization charge for that year, Oregon and Washington are each to be paid 18¾%.[25]

St. Lawrence Waterway. The Senate last year rejected the proposed treaty with Canada covering the projected St. Lawrence Waterway development. Friends of the Waterway estimate its total cost to the United States at $272,453,000 and to Canada at $270,976,000.[26] Opponents, such as the late Senator Long of Louisiana, use estimates varying upward from $600,000,000[27] to "closer to $1,000,000,000 than to $600,000,000."[28] Senator Copeland of New York still later raised the estimate to $1,350,000,000.[29] Of the share to be borne by the United States, New York will be expected to assume $89,726,000 to $90,000,000.[30]

Senator Pitman of Nevada, speaking in behalf of the treaty, summarized and compared the Federal policy of compensation to the states where vast properties are developed under Federal rather than private auspices, as follows:

"The policy established by the Congress in several acts has been that the States which are deprived of natural resources, whether they be sovereign waters, or whether they be timber or whether they be oil, are entitled to compensation for the withdrawal of these potential resources and taxable

[22] Public No. 642, 70th Congress, H. R. 5773, Sec. 4.

[23] Section 4b of the Act.

[24] Introduced March 9, 1933 in the Senate, 73rd Congress, 1st Session, as Senate Bill 249 by Senators McNary and Steiwer and by Mr. Martin of Oregon on the same date as Bill 52 in the House of Representatives.

[25] Section 5b of the proposed Act.

[26] Senator Vandenberg of Michigan in debate in Senate. 77 *Cong. Rec.* 73rd Congress, 1st Session, Pt. 5, p. 4482.

[27] *Ibid.*, p. 1812.

[28] *Ibid.*, p. 2073.

[29] *Ibid.*, p. 5072.

[30] Senator LaFollette of Wisconsin, *Ibid.*, p. 4498 and Senator Copeland, *Ibid.*, p. 2067.

property by the Federal Government for its own use. That is the policy of the whole United States."

The Senator from Nevada pointed out that, if private individuals were to construct the dams, the State of New York and the Province of Ontario would be able to levy taxes on the owners. In both the Boulder Dam and the St. Lawrence Waterway projects the proposed legislation allowed for compensating the states for the loss of these potential sources of tax revenues.

Port of New York Authority. In the conduct of joint ventures the states appear to grant tax exemption to the joint property. Among the large tax-exempt owners of real property in New York the State Tax Commission lists the Port of New York Authority with property valued at $6,551,300 in 1933.[31]

Size of Railway Properties

Even when grouped, these projects are likely to involve nowhere nearly as much money as is represented by investments in railroads. The total estimated investment in the Tennessee Valley, Boulder Dam, Columbia River, and St. Lawrence Waterway Projects, together with the RFC holding of bank stocks, might approximate $2,000,000,000. The value of railroad operating properties is nearly 10 times that amount. Applying June 1, 1933 unit values to properties existing December 31, 1932, the Bureau of Valuation estimated the cost of reproduction new less depreciation of railroad carrier property other than land, plus land values as of June 1, 1933, at $20,971,000,000.[32] While less than the aggregate of outstanding securities, this amount exceeded net capitalization with intercorporate holdings eliminated. The value of non-carrier properties was also excluded. Nor was anything allowed for so-called intangible elements of value.[33]

In the first Eastman report the view was expressed that as a whole the railroads of the country were not overcapitalized. The amount of capital provided by investors exceeds the par value of securities outstanding. The Bureau of Valuation of the Interstate Commerce Commission estimated the original cost of railroad carrier property other than land as it existed December 31, 1932 plus land values as of June 1, 1933 plus allowance for working capital at $26,232,000,000. Since land values were probably higher than the original investment in them, the original cost of railroad properties when corrected for this factor was believed likely to amount to at least $24,000,000,000. The stocks and bonds issued by the railroads amounted to $23,573,556,588, of which only $19,489,062,256 were in the hands of the public, the remainder being held in intercorporate ownership.[34]

Thus Commissioner Eastman estimates the original cost of railroad property at not less than $24,000,000,000 and the cost of reproduction as of June 1, 1933 at $20,971,000,000. If the railroads were all financially sound, the latter figure should be the minimum value which could be placed upon them. Obviously, excess capacity, obsolescence, and financial instability of some properties might considerably reduce that amount. For purposes of illustration let us take $20,000,000,000 as a probable maximum and $15,000,000,000 as a probable minimum of value which might be removed from local taxing jurisdiction by Federal ownership. With states deriving something like $250,000,000 of tax revenue from the railroads, the

[31] *Annual Report of the State Tax Commission*, 1933, p. 203 (Albany: J. B. Lyon Company, 1934).

[32] *Report* of Joseph B. Eastman, *op. cit.*, p. 6.

[33] *Ibid.*, p. 6.

[34] *Ibid.*, p. 5.

average state tax rate imposed on them amounts to from 1.25 to 1.67 cents on the dollar. Government ownership might mean the exemption from state taxation of railroad property equal in value to the general property in three or four states such as Wisconsin. The amount of yearly taxes is equivalent to the total tax levies by Kentucky, Tennessee, Alabama, and Mississippi combined.

It has already been stated that the effect on state financial programs is not the same when new plants are created by the expenditure of Federal funds where none existed before, as when properties already in existence pass from private to public ownership with an attending change in tax liability. Since the big power projects create and attract new tax-paying ability, the states concerned are benefited even though the Federally financed properties be not subjected to state and local taxation. Steam railways, having been long in existence, have come to occupy an important role as contributors to state and local taxes. Even in 1929, that peak year of prosperity, when funds were more easily obtained from other sources, the state and local governments raised 4.77% of their taxes from Class I railroads. At one extreme was Nevada collecting 26.49% of its taxes from the railroads. At the other were Delaware and the District of Columbia with only 0.91% and 0.44% respectively of their taxes paid by Class I roads.

Wisconsin as an Example

Since the writer is mainly interested in the financial problems of the State of Wisconsin, more detailed attention will be given to the place of railroad taxes in that State's financial system. In 1929 Class I railways paid 3.99% of all taxes imposed by Wisconsin state and local governments.[35] While 34 states placed relatively greater reliance on railway taxes than did Wisconsin, 13 states and the District of Columbia placed relatively less. Such a measure does not purport to determine the reasonableness of the burdens placed on the railways by different states. Whether the burden being imposed may be considered reasonable is generally a subject about which railroad representatives and taxing authorities disagree. If the Federal Government is to own the railways and to attempt to set up a standard tax policy in line with Commissioner Eastman's suggestion, the matter of deciding upon an equitable basis of taxation may also involve disagreement. Any analysis of this question must necessarily take cognizance of the need of state and local governments for revenue to carry on their activities. Probably in the past, tax levies on the roads have been determined by the usual logrolling process by which the roads received and gave support for various measures. It is equally likely that many states have gathered all possible feathers regardless of squawking. The amounts gathered must necessarily be determined in part by the standard of living of government in the various states. With these limitations in mind we may pass on to an examination of the place of railroad taxes in the Wisconsin tax system (Table I).

Apparently the tax-paying abilities (or at least the tax-paying liabilities) of the railroads in Wisconsin have not kept pace with the expanding requirements of the State and its subdivisions for tax

[35] Only the following states and territory derived a lesser percentage: District of Columbia, 0.44; Delaware, 0.91; Massachusetts, 1.43; Rhode Island, 1.73; Maine, 1.97; Connecticut, 2.00; Vermont, 2.29; New York, 2.51; Maryland, 2.70; Missouri, 2.88; Pennsylvania, 2.95; Michigan, 2.98; California, 3.18; Texas, 3.65.

monies. Prior to the World War railroads paid 8 to 10% of the total taxes levied in Wisconsin. Beginning with the imposition of bonus surtaxes about 1920 and continuing to date, the relative importance of railway taxes has steadily declined until in more recent years they have accounted for less than 4% of all taxes in Wisconsin. Of course, the total taxes paid by the railroads have decreased since 1925. The total of all taxes increased up to 1930. Since then there has been a decrease but not to 1925 levels unless the fiscal year 1934-35 shows a decline to that extent.

Another way of indicating the decline in importance of railway taxes is to show their relation to total taxes collected by the state government alone. In Wisconsin railways have regularly

TABLE I. SHARE OF TAXES OF WISCONSIN AND ITS POLITICAL SUBDIVISIONS PAID BY THE STEAM RAILWAYS AND AMOUNTS OF STATE-AID DISTRIBUTED AND NORMAL INCOME TAXES COLLECTED, 1901–1934.

Fiscal Year of Collection Ended	Taxes of State and All Political Subdivisions			Taxes of State Government Alone			State Aids Distributed	Total Normal Income Tax Collection (in 000's)
	Total Taxes (in 000's)	Steam Railway Taxes (in 000's)	Per Cent Paid by Steam Railways	Total Taxes (in 000's)	Steam Railway Taxes (in 000's)	Per Cent Paid by Steam Railways		
1901	$ 21,562	$ 1,600	7.42%	$ 3,432	$ 1,600	46.63%	$ 1,219	.....
1902	21,834	858	3.93	3,623	858	23.68	2,022	.....
1903	23,335	1,795	7.69	4,649	1,795	38.62	2,083	.....
1904	23,424	1,913	8.17	3,555	1,913	53.82	1,911	.....
1905	24,317	1,956	8.04	3,785	1,956	51.67	2,024	.....
1906	27,241	3,411	12.52	5,325	3,411	64.05	2,114	.....
1907	27,453	2,674	9.74	4,409	2,674	60.65	2,257	.....
1908	31,038	3,266	10.52	6,934	3,266	47.10	2,398	.....
1909	33,217	3,119	9.39	7,235	3,119	43.10	2,610	.....
1910	33,953	3,163	9.32	7,892	3,163	40.08	2,744	.....
1911	36,230	3,263	9.01	8,747	3,263	37.31	2,882	.....
1912	38,899	3,594	9.24	9,194	3,594	39.10	3,427	.....
1913	41,992	3,733	8.89	8,587	3,733	43.48	4,004	$ 1,631
1914	50,696	4,291	8.46	13,947	4,291	30.77	4,744	1,903
1915	52,190	4,749	9.10	12,378	4,749	38.37	5,170	2,094
1916	53,438	4,804	8.99	11,434	4,684	40.97	5,055	1,960
1917	59,567	5,155	8.65	12,495	4,840	38.74	5,613	2,960
1918	66,917	5,370	8.03	14,305	5,145	35.97	6,577	6,161
1919	74,686	5,487	7.35	15,497	5,246	33.85	6,853	7,000
1920	105,743	6,095	5.76	35,085	5,804	16.54	8,158	6,310
1921	117,932	7,061	5.99	22,859	6,714	29.37	8,921	4,681
1922	124,123	7,295	5.88	25,432	6,930	27.25	9,297	7,366
1923	121,676	7,322	6.02	23,874	6,949	29.11	10,121	4,351
1924	132,162	7,401	5.60	27,701	7,032	25.39	11,467	6,669
1925	138,150	7,413	5.37	28,409	7,030	24.75	12,044	7,265
1926	142,800	6,911	4.84	31,299	6,533	20.87	13,942	12,122
1927	154,971	6,548	4.23	35,129	6,177	17.58	14,425	16,382
1928	148,917	6,793	4.56	33,700	6,387	18.95	13,950	2,376
1929	172,686	7,075	4.10	41,964	6,640	15.82	19,530	15,722
1930	184,121	7,272	3.95	47,399	6,824	14.40	18,499	18,761
1931	183,684	7,179	3.91	48,145	6,746	14.01	18,434	18,330
1932	173,700	6,369	3.67	49,408	5,982	12.11	27,381	15,235
1933	157,250	5,714	3.63	47,564	5,380	11.31	24,257	12,001
1934	150,918	5,156	3.42	47,248	4,867	10.30	22,632	10,743

paid most of their taxes directly into the treasury of the State. Until the World War the railroads paid from ⅓ to ⅔ of all taxes received directly by the State. The trend since that time has been downward until now railroad taxes are little over 1/10 of total state taxes. Again, this decline in relative importance is not attributable principally to an absolute decline in taxes paid by railroads, although part of the relative decrease can be thus explained. New sources of revenue account for the greater share of increased taxes collected. One specific instance is the normal income tax which was not in effect until 1913. At first it provided only half as much as railway taxes. During recent years the normal income tax, together with surtaxes, has amounted to several times the railway taxes. Incidentally, railways are favored in Wisconsin to the extent that they do not pay income taxes. Other taxes paid directly to the State are the gasoline, license, malt beverage, liquor, and inheritance taxes and taxes paid by interdistrict light, power, and street railway companies.

The State seems always to have been to a considerable extent the collecting agent for the localities if monies turned back can be considered indicative. In the early part of the century when railway taxes were a large part of the total collected by the State, the aids to localities for schools and other purposes approximated the amount of taxes paid by the railways. As other sources of revenue were tapped by the State, the proceeds were in part or in full returned to the localities as aids. This policy of state aids to localities is followed in many states and may be suggestive of a means of avoiding disruption of state and local finances if the railroads are owned by the Federal Government.

Railroads in Wisconsin are taxed on an ad valorem basis, the assessment being made by the Tax Commission and the rate being the average state rate, which is arrived at by dividing the total amount of general property taxes levied in the local assessment districts by the full value of the taxable general property in all districts. Michigan has practically the same system. Many other states use the ad valorem basis although the procedure varies from state to state.[36]

Among the outstanding examples of states taxing railways principally or wholly on the basis of a percentage of gross receipts are California, Connecticut, Maine, Maryland, and Minnesota. California applies a rate of 7%, while Minnesota uses 5%. Since Minnesota and Wisconsin are adjoining states, it may be of interest to note the relative importance of railway taxes in Minnesota's tax system.

Table II shows that Minnesota derives a greater percentage of total taxes from railways in good than in bad years, the percentage showing a decrease for every year since 1924 with a very abrupt and drastic decline for the years 1931, 1932, and 1933. For the last decade almost 4½% of Minnesota's tax revenues has come from the railroads, although the percentage derived in the last three years was but slightly over half as much as for the first three years. As shown in Table I, Wisconsin suffered a similar but not quite as drastic a drop from 5.6 to 3.63% during the same period. The relative declines are attributable to very dissimilar causes. This is evidenced by the fact that the total taxes levied in Minnesota in 1933 were less than in 1924, whereas the total levy in Wisconsin was over $25,000,000

[36] For an authoritative and detailed analysis in this connection, see Commerce Clearing House, Inc., *Federal and State Tax Systems*, 4th ed., January 1, 1933, pp. 167-9.

TABLE II. RELATION OF TAXES PAID BY RAILWAYS IN MINNESOTA TO TOTAL OF GENERAL PROPERTY, GROSS EARNINGS, AND OTHER SPECIFIC TAXES

Year	Total of All Taxes (000's omitted)	Gross Earnings Taxes Paid by Railroads (000's omitted)	Ratio of Railway Gross Earnings Taxes to Total
1924	$ 136,883	$ 7,678	5.61
1925	146,151	8,028	5.49
1926	145,856	7,933	5.44
1927	153,381	7,844	5.11
1928	154,008	8,097	5.26
1929	163,227	8,142	4.99
1930	161,409	6,849	4.24
1931	154,119	4,838	3.14
1932	137,790	3,437	2.49
1933	136,335	3,953	2.90
Total	$1,489,160	$ 66,800	4.49

greater in 1933 than in 1924. In both states the taxes paid by railroads decreased during the depression, but the drop was much more marked in Minnesota (Table III).

The foregoing data illustrate the difference in character of ad valorem and gross earnings taxes. The latter tax provides greater revenues in good than in bad times as it varies directly with the total receipts of the railways. To that extent the gross earnings tax is not a reliable revenue producer in times when governmental needs may be greatest.[37] A further analysis of the equity of this tax is attempted in Table IV. The first column shows all taxes for the past decade and the second column expresses the total for each year as a percentage of the annual average for the period. The same procedure has been followed for general property tax levies and for railway gross earnings taxes. Thus it appears that by 1933 the total taxes were slightly less than in 1924. So too were general property taxes, which were more than in 1932, approximately $2,500,000 less than in 1924, and a little less than 94% of the annual average for the 10-year period. Railway taxes, on the other hand, had fallen to but little more than half of the 10-year average in contrast with a less than 10% decline in general property tax levies.

TABLE III. ANNUAL TAXES PAID BY RAILROADS IN MINNESOTA AND WISCONSIN, 1924-1933

Year	Taxes Paid by Railroads	
	Minnesota	Wisconsin
1924	$ 7,677,568	$ 7,400,926
1925	8,028,095	7,413,323
1926	7,932,716	6,910,623
1927	7,844,185	6,548,290
1928	8,097,343	6,792,698
1929	8,141,673	7,074,692
1930	6,848,853	7,271,689
1931	4,838,353	7,179,114
1932	3,437,476	6,369,046
1933	3,953,443	5,713,815
Total	$ 66,799,700	$ 68,674,216

The present discussion is concerned with gross earnings taxes as a dependable source of revenue rather than with a criticism or justification of the Wisconsin and Minnesota tax systems as such. As was stated previously, total taxes in Wisconsin in 1933 were still over $25,000,000 higher than in 1924. In 1933 general property tax levies as well as ad valorem taxes paid by railways were at the lowest point in 10 years. General property tax levies were 87.1% and railway taxes 83.2% of the 10-year average (Table V). Although railways in Minnesota enjoyed a 50% decrease by 1933, general property was bearing about the same share of the total burden that it bore in 1924. In Wisconsin the relative decrease in taxes enjoyed by the railroads was but slightly greater than that found in general

[37] For a discussion of the merits of this method of taxation, see Blakey, *Taxation in Minnesota* (Minneapolis: University of Minnesota Press, 1932), pp. 324-330.

TABLE IV. COMPARATIVE AMOUNTS OF TOTAL TAXES, TOTAL GENERAL PROPERTY TAX LEVY, AND GROSS EARNINGS TAXES PAID IN MINNESOTA, 1924–1933*

Year	Total Specific Taxes	Ratio to 10-year Average	Total General Property Tax Levy	Ratio to 10-Year Average	Gross Earnings Taxes Paid by Railroads	Ratio to 10-Year Average
Average	$148,915,973	100.00	$116,471,082	100.00	$ 6,679,970	100.00
1924	136,883,481	91.92	111,738,200	95.94	7,677,568	114.93
1925	146,151,467	98.14	116,667,205	100.17	8,028,095	120.18
1926	145,855,776	97.95	113,653,423	97.58	7,932,716	118.75
1927	153,380,700	103.00	121,058,864	103.94	7,844,185	117.43
1928	154,008,462	103.42	119,983,387	103.02	8,097,343	121.22
1929	163,226,611	109.61	124,074,540	106.53	8,141,673	121.88
1930	161,409,451	108.39	122,186,244	104.91	6,484,853	102.53
1931	154,119,335	103.49	119,044,062	102.21	4,838,353	72.43
1932	137,789,581	92.53	107,011,558	91.88	3,437,471	51.46
1933	136,334,869	91.55	109,293,338	93.84	3,953,443	59.18

* *Thirteenth Biennial Report*, Minnesota Tax Commission (St. Paul, Minnesota: 1932), p. 299 and letter from Mr. H. B. Bacon, Chief Clerk of Minnesota Tax Commission.

property tax levies. Minnesota had one special advantage; its gross earnings taxes were readily collected. Some of Wisconsin's ad valorem tax levy on railways was delinquent. The $5,713,815 shown was collected but assessments amounting to $398,382 were unpaid either because of delinquency or litigation over assessments. Thus out of $6,114,197, over 6% remained unpaid.[38]

[38] Data from records in Tax Commission files.

In spite of being quite unreliable as a revenue producer, the gross earnings tax, once the rate is determined, has the added virtue of simplicity. Supposing Mr. Eastman's board of railway managers were to recommend that the states be paid taxes on a gross earnings basis, what rate should be applied? Table VI throws some light on the problem.

Would the rate chosen be 4%, as dur-

TABLE V. COMPARATIVE AMOUNTS OF TOTAL TAXES, TOTAL GENERAL PROPERTY TAX LEVIES, AND AD VALOREM TAXES PAID BY RAILROADS IN WISCONSIN, 1924–1933*

Year	Total Taxes of State and Political Subdivisions	Ratio to 10-Year Average	Total General Property Tax Levies	Ratio to 10-Year Average	Ad Valorem Taxes Paid by Railroads	Ratio to 10-Year Average
Average	$158,844,148	100.00	$108,755,783	100.00	$ 6,867,422	100.00
1924	132,162,093	83.2	100,120,302	92.5	7,400,926	107.8
1925	138,150,304	87.0	104,119,726	96.2	7,413,323	107.9
1926	142,799,752	89.9	99,948,768	92.3	6,910,623	100.6
1927	154,971,433	97.6	105,584,287	97.5	6,548,290	95.4
1928	148,916,906	93.8	111,094,527	102.6	6,792,698	98.9
1929	172,686,315	108.7	117,520,468	108.6	7,074,692	103.0
1930	184,120,797	115.9	122,253,862	112.9	7,271,689	105.9
1931	183,683,744	115.6	120,855,119	111.6	7,179,114	104.5
1932	173,700,069	109.4	106,756,277	98.6	6,369,046	92.7
1933	157,250,068	99.0	94,304,494	87.1	5,713,815	83.2

* *Biennial Reports*, Wisconsin Tax Commission.

TABLE VI. RELATION OF TAX ACCRUALS TO RAILWAY OPERATING REVENUES OF CLASS I ROADS, 1927-1933

Year	Railway Operating Revenues Class I Roads* (000's omitted)	Tax Accruals Other than U. S. Government Taxes Class I Roads† (000's omitted)	Ratio of Tax Accruals to Operating Revenues
1932.....	$3,126,760	$ 263,310	8.4
1931.....	4,188,343	293,325	7.0
1930.....	5,281,197	308,636	5.8
1929.....	6,279,521	307,239	4.9
1928.....	6,111,736	301,434	4.9
1927.....	6,134,538	291,497	4.75

Railway Age, January 27, 1934, p. 102.
†Source: Interstate Commerce Commission Bureau of Statistics. *A Preliminary Abstract of Statistics of Common Carriers*, U. S. Government Printing Office, p. 6, for years 1927 and 1928 and p. 8 for years thereafter.

ing the good year; or 8%, as during the past three years; or would it be 5.7%, the average for the three prosperity and three depression years? Probably it would be something like 5%, the rate imposed upon operations of the Tennessee Valley project. With annual railway operating revenues ranging between $3,000,000,000 and $4,000,000,000, the states as a whole could expect to receive from $150,000,000 to $200,000,000, instead of the $250,000,000 or more collected in 1933. This would amount to a reduction of from 20 to 40%.

Such a reduction seems very reasonable to anticipate. The Federal Government would desire to have its ownership and operation appear to be as economical as possible. There would be no desire to assume the burden of an unduly heavy annual payment to the states. Whatever would be paid must necessarily be more in the nature of grants or aids than taxes, because the Federal Government would be under no constitutional obligation to pay anything. Whatever obligation might exist would be merely a moral one, and that could be variously interpreted by the successive Congresses.

The Problem of Distribution

Assuming then that the Federal Government might undertake to have its railroads pay taxes to the states—and this was done during the period of Federal control under war conditions—how could each state's share be ascertained? It has already been shown how the states rely to different degrees on the collection of taxes from railroads. Would 25% of Nevada's total taxes still come from the railroads? It seems doubtful. Since practically every state has unique features in its method of taxing railways, no existing scheme seems likely of adoption in spite of the proposal in the Wheeler Bill. Distribution could be made on the basis of gross earnings actually to be credited to each of the various states. This would involve a consideration of what determines the state to which the earnings could be credited. Would it be the amount of traffic originated in the state, or some combination of these factors? Perhaps distribution would be made on the basis of the value of property located in each state. But that would unduly favor the states where large switching and terminal facilities are situated. The western states would share only on the basis of tracks and rights-of-way. A state such as Wisconsin, with terminals of its important railways in Chicago, St. Paul, and Minneapolis, might be given a rather meager share, although the roads pass through that state and, in some cases at least, benefit by that fact. The states with no terminals would demand that distribution be made on the basis of track mileage or passenger miles and freight-ton miles. Those with valuable terminal properties would demand that the chief

factor considered in making allotments be property values. With all these conflicting demands any plan chosen could hardly find universal favor. The distribution of the tax monies might easily lead to as much logrolling as tariffs and pork barrel appropriations.

Mention was previously made of the problems arising from property abandonments. One can well imagine how strenuously the abandonments of lines and terminals would be opposed by the section or state whose share in the distribution on a property-value basis would be decreased. Similarly, a rerouting of traffic would be bitterly opposed were the distribution made on the basis of passenger and freight mileage or some similar basis. In declaring for Government ownership, Senator Wheeler of Montana has described it as the only feasible means of securing a coordinated and unified railway system for this country. Success in this respect will not work to the immediate and universal advantage of every person, group, or state throughout the country.

Conclusion

A host of other problems in this connection can well be anticipated. At the present time Federal automobiles and mail trucks neither buy state motor vehicle licenses nor pay state gasoline taxes. If the railways were governmentally owned, there is good reason to anticipate an eventual development of interconnecting bus lines and of pick-up and delivery freight and express service. Is there reason to expect that these vehicles would be required to carry state license plates or to pay motor vehicle fuel taxes any more than mail trucks do now?

These problems are not mentioned in any spirit of opposition to Federal ownership. That may be the unavoidable goal toward which we are being impelled. The problem here raised is, what are the states going to do for finances? While not simple and not necessarily obvious, one solution—probably the most workable one—has already been suggested. The Federal Government will have to bolster state finances with additional grants-in-aid, either proclaimed to be taxes or labelled as outright aids, the ultimate effect being the same. With Federal aids now being given for roads, for forests, and for health, and proposed for old age pensions, mothers' pensions, and unemployment insurance, there seems some possibility that the old doctrine of state's rights is melting away, notwithstanding the recent decision of the Supreme Court in the matter of NRA. If the states are becoming more and more in the nature of administrative subdivisions of the Federal Government, they can with justification expect Federal aid for new purposes such as schools. The economic conditions of our age may be making state boundaries of less and less importance. Federal grants-in-aid to help the states finance public building programs and to pay part of the proposed cost of administering old age pensions is embodied in bills now before Congress. State regulatory commissions have little real power any more in matters involving railway rates, acting principally as investigating agents for the Interstate Commerce Commission. Proposed legislation will transfer to Federal agencies control over holding companies now being exercised in a limited degree by some state commissions. All these factors indicate a trend which may or may not be reversible. If the trend is going to continue, there appears to be reason to expect that, should the Federal Government assume ownership of the railways, the financial needs of the states can be met by aids.

One possibility might be grants-in-aid for educational purposes. Education of the youth is a national problem in many respects. Government ownership would fuse the various independently operated railway systems into a single system. Because it is difficult to apportion the operating parts of the national railway machine among the several states for property tax purposes, grants-in-aid for education suggest a possible solution of the problem of providing state treasuries with funds equivalent to those now realized by taxation of railroads. One of the costs of operation of the national railway system should be some contribution to the financing of state governments and the aids could be given for carrying on an activity nation-wide in scope and importance. A measure of equity between states would thus be insured and a possible basis for harmony of interest assured.

Private versus Public Enterprise in Housing

By WALTER S. SCHMIDT*

THE return of prosperity to this country undoubtedly is dependent upon the revival of the construction industry. Population growth, at a rate unparalleled in any other principal nation, has created necessity for continuous addition to our facilities for housing families as well as businesses and manufactories, in such proportions as to constitute construction our major activity, our greatest employer of labor, and our economic balance wheel. Annual volume in this field, while never accurately measured, yet is known to have exceeded 15 billion dollars, with approximately half of the nation's manufactories making materials used in construction. As an interesting comparison, our total foreign export trade in its maximum year was only slightly in excess of 5 billion dollars. The 1930 Census showed 10 million workers engaged in producing "durable goods," largely items going into construction of one or another type.

The Federal Government, recognizing that stimulation of construction was necessary to recovery, principally because a return to normal volume would put back to work millions of persons now unemployed, has embarked on many projects intended to accomplish that result. Among these activities are the numerous home mortgage instrumentalities created and the various measures concerned with housing for the low-wage group, such as "low-cost housing," subsistence homes, family resettlement, and others of like nature. This program has obvious appeal to many elements of the population; it has likewise sociological and political appeal. No one can question that our cities have much housing fit only for destruction or that a civilized country should be concerned about the living conditions of the third of its population in the lowest income bracket. The questions before the nation today are whether the specific emergency measures adopted speed recovery, and, if they do, whether they represent sound long-range policies which this nation can afford to adopt. Before this country permits itself to be led too far into courses from which retreat may be difficult, the present situation should be carefully examined in an attempt to gauge the probable effects of Federal policy as now enunciated and, out of such analyses, conclusions should be drawn as to the correct relation of government to housing.

The Present Situation

It is quite apparent to shrewd observers of real estate trends that America is close to an acute shortage in living-unit supply. Contraction in space use and doubling up of families during the first years of the depression resulted in great vacancy and consequent rent reductions. This vacancy now has been absorbed almost completely by normal increase in the number of families. The vacancy survey taken by the National Association of Real Estate Boards during October of this year in a group of major cities showed vacancy in single-family residences to be less than 1% and in apartments 5%. As apartments represent only a small percentage of total living units,[1] the actual number

* President, National Association of Real Estate Boards.

[1] 1930 *Census* (Vol. 6, Table 13) figures on living

(*Footnote 1 continued on p. 343*)

of available units is so small as to create a dangerous situation. New construction during the past four years has not even replaced the loss by fire or other casualty or the tear-down resulting from obsolescence and like causes. From data already in hand it appears that this year private and public construction will amount to about 100,000 units; in 1934, the figure was 30,000 units; in 1933, 35,000; and in 1932, 125,000,[2] a total of 290,000 units whereas a conservative estimate of destroyed units is 125,000 a year or 500,000 in the four-year period. Families in the United States are increasing at the rate of approximately 1.2% a year or 360,000 annually.[3] These figures reveal why vacant units have been absorbed and the further fact that from this moment forward at least 485,000 new units must be constructed annually if our people are to be housed. Rents are definitely on the upward trend—a healthy tendency, distressing as it may be to certain occupants. Rent increase means value increase; new houses will not be built in volume while existing homes can be purchased at less than fair worth. A great building revival is definitely in prospect for 1936 unless unnatural obstacles are placed in its way. Time has been working to make new units necessary in this growing nation.

During the period from 1900 to 1920, apartment house construction was on the increase as compared to one- and two-family dwellings. It is always to be kept in mind that the apartment is a small factor in the housing picture. A goodly portion of the multiple-family dwellings are 3-, 4-, or 5-unit buildings of tenement type. The average number of families in multiple-dwellings is 5.7,[4] revealing clearly that the apartment building, as ordinarily considered, houses but a negligible portion of our families, probably between 8% and 10%. There has come a definite swing back to the single-family house. In 1900, there were 1.12 families per dwelling; in 1920, 1.18; in 1930, 1.19.[5] Since 1930, the major portion of construction has been of the single-family type. Studies made[6] show that 80% of these homes were constructed by operative builders for sale to unknown purchasers, the remainder by owners for their own use. Owner construction tends to decrease each year, and apparently is likely almost to vanish in favor of the ready-made house.

Because of improved roads and the speed of modern transportation, building has more and more extended to outlying sections where land use is not so intense. The single-family detached house is coming back into strong favor. In only a very few cities does the popularity of the row-house still remain; the individuality of the detached house and the larger sense of ownership coming with its possession, no doubt, are the reasons for its greater and greater appeal. Likewise, there has grown a demand for somewhat more land—an average of about 7,500 square feet, as opposed to about 6,000 square feet 10 years ago and 4,000 or 5,000 square feet 25 years ago. The price range for the single-family house is from $3,500 to $15,000 for different classes of population served.[7] It is accepted as prima-facie that he who desires a new home

(*Footnote 1 continued from p. 342*)
units are: single- and two-family dwellings, 79.8%; three or more families, 20.2%.

[2] Statistical Bulletins, Federal Home Loan Bank Board and Federal Housing Administration.

[3] 1930 *Census* showed 29,904,663 families; the rate of increase is estimated on population increment, checked for various factors.

[4] 1930 *Census*, Vol. 6, Table 13, p. 10.

[5] *Ibid.*, Vol. 6, Table 14, p. 10.

[6] National Association of Real Estate Boards, 1931.

[7] Average cost: 1921, $3,972; 1929, $4,915 (*Monthly Labor Review*, May, 1934).

must purchase it; there is practically no building to rent in the single-family field. Thus has been sustained and stimulated the distinctive American ideal of "home ownership." The desire is not confined to the wealthier class. Department of Commerce figures, taken in 52 cities, show $1,478 as the average income of the American home owner in 1933.[8]

The former close-in homes of those who, by ambition and saving instinct, have advanced in life, are rented to those coming up from below. In addition, the larger houses of the well-to-do frequently adjoined the business districts and were given up in favor of homes in suburban areas. The result is that a goodly portion of tenement property is convenient to business and industry, and is of the single-family type, remodeled with varying success to meet the needs of multiple-family use. Rentals of the lower-income group, who occupy usually the oldest of the residential structures of the community, vary with the city and the location in it from $2.50 to $5.00 per room.[9]

As for the landlord to the poor, usually he is a person who has inherited or bought for investment a few tenement properties. He is fortunate if his investment produces a net return of 3% or 4% over any period of years. The limited-dividend corporations in New York City, although granted concessions in taxes and other items and although all are charging the allowed maximum of $12.00 per month per room, still are earning no fair return.[10] They can hardly be said to be serving the low-wage group, when 500,000 families in that Metropolis are paying $6.00 or less per room.

Not today, nor for 35 years, has it been possible to build for the low-wage group at any rent that group can afford to pay, whether the improvement is constructed well or ill. Perhaps some usurious landlords are building ill and battening off the poor; usually, however, such stories are wishful statements of slum-clearance enthusiasts and, even if occasionally true, give no right picture of the general situation. It is perhaps inevitable in the course of things that the least fortunate occupy "second-hand" quarters. Certainly those of the low-wage group can afford to pay less than ½ of the fair economic rent which must be charged even in the most modestly constructed new buildings.

Many paper thinkers and even certain prominent federal officials concerned with housing state that home ownership is on the wane, that its day is done. However, those in real estate who have daily business contacts with the great middle classes, know that the urge remains. True, purchases have been falling off during these difficult times when fear has controlled action; true, too, as we have passed from a predominantly rural to a predominantly urban civilization, the percentage of ownership has shown a steady decrease. But demand is again emerging, and those in a position really to know are convinced that the innate desire to own will express itself in such action as we have never experienced if encouragements are offered, if the soundness of owning is stressed from authoritative sources, and if convenient and economical financing is arranged. A surge upward of this more stable and saving middle class into newer purchased homes would release housing of somewhat better class for the occupancy of those

[8] Department of Commerce *Bulletin*, June 30, 1933.

[9] Tables covering 15 typical cities prepared by the author.

[10] "Analysis of Limited-Dividend Corporations in New York City," September, 1935.

below and result in the elimination of the worst of the tenements now in use. This seems the logical and practical goal for which to strive.

What the Government is Doing

While the policy just outlined is expressed by the Federal Housing Administration, other federal agencies seek contrary objectives. It further is to be said that, while there is sound reason in the argument that social justice demands betterment of housing conditions for the poor, yet there is also another kind of justice, commutative, which has even a stronger counsel to the effect that in bringing such betterment to one class we do not do substantial injustice to another.

As an emergency measure designed to put people to work, government rather hastily entered upon a program of slum clearance and construction of sublimated tenements. Projects were to be self-liquidating except for an outright grant of 30% of cost. It was expected that limited-dividend corporations, either existent or to be formed, would be attracted by the 30% grant and that through a nation-wide activity in constructing living units for the low-wage group, the pump would be primed for building recovery. However, though some grants were made, none met the real requirements of the act, for the reason that despite the 30% donation it still remained impossible to build for those in the lower income third of the population; the rents they can afford to pay will not support even 70% of the total investment. Thus there is good ground to question the justice of the criticism leveled at private enterprise for its failure to cooperate in the plan, or for its failure to provide adequately for these classes in the past.

The PWA, acting through its Housing Division, then decided to build directly, using local housing committees as buffers. Theoretically, the projects still were to be self-liquidating after deduction of the subsidy. Numerous such projects are in process. Quite obviously these projects cannot meet government's own challenge to private enterprise, nor show the way whereby capital can construct like improvements to replace the slums on an economic basis. The tenements, if they are to return a fair income and be self-liquidating in accordance with the provisions of the legislation authorizing them, cannot serve those persons purported to be benefited, for that element of the population is unable to pay the rents necessary to accomplish such a result. So far no real contribution has been made by way of clearing the worst slums. Furthermore, not by any means are all of the selected sites in bad slum areas. Of course, considerable dilapidated housing will be removed, but to designate the activity generally as "slum-clearance" or as "low-cost housing" is a misnomer.

Both the Housing Division of PWA and the Resettlement Administration are now devoting chief attention to plans for building great groups of single-family homes to be rented, either within the limits of, or as close as possible to, urban centers. Many such projects are about ready to be initiated, the smallest contemplating the construction of 200 such homes, the largest, 5,000. The thought is that with each house will go from half an acre to two acres of land. This plan is capable of more practical application than the slum-clearance idea from an economic standpoint, because the homes will attract a class capable of paying economic rents and because business property values will be created; income received from this source prop-

erly can be used to reduce costs to the home occupier. The writer has for years advocated the building of major satellite towns close to the principal centers of population, the retention of business values created, and their use to reduce costs to the home purchaser. It remains to be seen just how the Resettlement Administration will decide to operate. Again in this program there has been considerable talk of uneconomic rents.

Effects of the Government Program on Private Construction

This brings us to a consideration of various questions regarding the effect which Federal policies now adopted will have upon business in the real estate field. Will they be regenerative or retardent to recovery? Observation over the country indicates that considerable fear exists among private operators as to the repercussions upon them if government activity now proposed is continued. It is a serious question as to whether the construction of tenements—really modest apartments—rented at less than an economic figure, will cause apartment projects to be deferred even though the tenements proposed will not of themselves be competitive. Operative builders have been much disturbed by the announcement of federal plans calling for the building in different communities of a whole year's normal output of small houses to rent at low figures. The prospect of such federal activity, the very possibility of it, cannot help but deter private enterprise. The activity of the Resettlement Administration could be made to lend itself admirably to aiding private enterprise instead of stifling it. It is not so much the actual things that government announces it is ready to do as the probability of extension of these plans, which gives pause to those who normally would be ready to recommence activities. Present policies therefore should be scrutinized carefully. Definite lines should be drawn beyond which action will not extend and those policies that are detrimental should be abandoned or revamped.

Thinking Americans make serious question as to whether government appropriately should become landlord to its own citizens. This country has been 150 years getting the land into the hands of its people. Now we are asked to commence a reversal of the process. Certainly the position of government as landlord is a most unenviable one and entirely out of accord with prior American practice. There is even question whether government can manage such properties effectively. Certainly, it will be in a difficult position to collect its rents during any period of stressful conditions. Widespread ownership of the land, of the home, seems almost the essence of American civilization. In the majority of other countries home ownership is confined to a few; it is difficult of accomplishment. One after another of our great leaders have urged that every citizen secure for himself a stake in the land. Webster said that home ownership was the bulwark of democracy. So it would seem, since the either extreme of communism or despotism must first undermine that practice and that right before they can make headway.

Many have said that ours has not been such a bad system, since it forces the least thrifty to occupy unattractive housing—tenements to get away from into a home of one's own. If our families had the habit of remaining static, such a statement would hold no point, but advancement in the scale of life is the American ambition—an ambition that

has been realized by a majority of our citizens. Our country still holds opportunity for the worker who is determined to better his condition. Federal building of living units does not tend to strengthen, in fact is destructive of, the ownership ideal. It is unsafe to base conclusions for our own country upon practices found successful in others. Ours is distinctly a different civilization than that existing in England, for instance, where families for generations remain within their classes and the majority of the people are renters without hope of other status or desire to alter that position.

Another effect of present policies is to place government in direct competition with great groups of its citizens in two categories—owners who rent living units to others, and builders of apartments and homes. Tenement property in this country is not owned in the usual case by great estates, rather by great numbers of small owners controlling a few properties. If government rents living units—apartments and houses—at amounts less than economic rents, other rents must necessarily suffer by comparison. Great multitudes of owners will be injured. An argument has been advanced that a few such buildings will not affect the general situation. It must not be forgotten, however, that federal policies once inaugurated tend to enlargement of their scope by pressure from within; and from without will come insistent demand for widening the program from those not as yet receiving its benefits.

Those who build for investment likewise will feel that competition. The occupants of federal improvements, possessing quarters offering all reasonable modern conveniences at low rents, naturally will consider themselves in best positions and will hesitate to add disproportionately to their expense even though they might well afford a more attractive apartment. The same damage will accrue to those who construct homes to sell. Many occupants of federal improvements, in the normal course of events, would have become purchasers of new homes.

Damage being done by many philosophically and economically incorrect federal policies concerned with real estate is far out of proportion to the good they can accomplish, even if the ends they seek are secured. On September 5, 1935 the Public Works Administration announced the status of its projects. The total living units in all the projects set forth in this bulletin,[11] both under the allotments to limited-dividend corporations and the building by government upon application from municipalities, numbered 22,480, of which 1,234 were completed and occupied. The influence which this activity has had upon the actual supply of better living conditions is insignificant compared to the total need of the country. If the government is really to have a major influence through such direct building, the amount of money that must be spent runs into simply staggering figures. The ultimate result of such a policy will be that, since the great middle class ultimately pays the taxes, a goodly portion of the members of this class will be in the position of paying for better housing than they themselves are able to occupy. Again emerges the question, is this commutative justice or sound economics?

The Appropriate Role of Government

Government has a definite place, however, in the realty picture. Sociological questions involved in housing

[11] Federal Emergency Administration of Public Works—P. W. 40,859.

are of national import. So are numerous other problems connected with real estate—that great solid reservoir of national wealth. Many desirable activities in connection with it are beyond the capacity of private enterprise to encompass.

It is quite evident that improvement in some 20% of our urban housing should be diligently sought and that this wealthy country should see to it that its people live in decent, safe, and sanitary quarters. We protect our cattle—more should we our humans. But government certainly need not act as an owner and builder to obtain this result. A multitude of other expedients are available and should be exhausted before we surrender to such a dictum. That principle granted, it follows that government must conduct *all* business in this interwoven civilization. Attacks have been made on private enterprise for its failure to correct bad conditions. Little credit is given for that great work done in moving large numbers of people to attractive suburban homes. The fact is that government itself has been decidedly derelict in the performance of its duty in the premises during that long period of years since the problem first came to the forefront; it as yet has offered no sound comprehensive plan; no helps to private enterprise that are practical; no economic direction. Nor should the inferences drawn from statistics by certain investigators in this field be taken at their face. *People* can overnight convert into slums erstwhile reasonably decent and respectable neighborhoods. Haphazard placement of new tenements here and there will not eliminate crime, nor disease, nor municipal expense. Ultimately, these federal buildings are doomed to partake of the character of their surroundings and to become the warrens of the future.

Many steps are necessary for carrying through an adequate program to insure betterment and stability in housing practice. A first is real protection of the mortgage structure. Government's efforts in this regard have produced some useful instrumentalities, but they are incomplete and cover but a portion of the need. The mortgage must be made really marketable by a Federal Bank of Discount, prepared to buy sound mortgages when holders are forced to sell. By this means the mortgage would be made more attractive, a steady flow of money for financing sound projects would be assured and, as well, some lowering of interest rates on housing loans would be possible. This agency should cover the entire field; the long-term credit structure is one whole, and that whole must be protected or all parts will collapse under pressure.

It would seem a distinct obligation of government to protect the mortgage structure through a proper reserve system. Long-term credit always has exceeded short-term credit in volume. Thus protection of the long-term or mortgage credit structure against collapse during periods of stress would seem to be quite as important as protection of the banking system. Fluidity in the flow of mortgage money is an element of extreme importance in maintaining value and safeguarding the realty owner.

Another activity beyond the capacity of private capital is that of research into the status of the commodity. The Realtors of the nation have been begging for comprehensive research for years. What little has been accomplished, such as the Real Property Inventory recently made by the Department of Commerce, the vacancy surveys in different cities, tax analysis, and other such individual pieces of work,

has been the result of the pressure this group has brought to bear. However, the total research is woefully small and entirely inadequate as a base upon which to build constructive policies. Wide and continuous fact finding and study must be carried on if sound economic direction is to be given.

Every agency of government should feed into a research department. The status of that great commodity—real estate—should be determined and kept always up to date. Only by this means can needs be known, can dangers be pointed. Who knows how many living units properly should be constructed every year, and whether this country has a shortage or a surplus of space? Who knows how many units were destroyed last year by tear-down and the many casualties of fire, tornado, earthquake, flood? Who is seeking by coordination of knowledge and use of new invention really to make possible a better house at a lesser price? That research, as in the mortgage problem, should cover every class of urban real estate, for trends in business and industrial use vitally affect the housing situation.

Only by careful and painstaking effort can various maladjustments in the construction industry be corrected. There is a dislocation between the cost of housing and wages of the average earner. One reason for that fact is the archaic character of the industry in many of its aspects. Progress toward the unitizing of parts has been painfully slow, and much remains to be done if real economies are to result. Methods of distribution in the material field often are extraordinarily costly. Wages are out of line, not because the annual earnings of the worker are too high, but because employment is not steady. Every time an advance is made that improves the finished product, the cost is increased. Altogether, there is room for a real piece of work in coordinating, making adjustments, suggesting agreements on cost-saving policies, and analyzing products—all to the end of correcting the dislocation. In passing, it might be mentioned that when construction does start in volume, cost will rise sharply; the supply of workers is diminished, with no apprentices in training these past many years, and material prices, while now high, will certainly increase with activity. It is entirely conceivable that if the Resettlement Administration embarked on a definitely scheduled program calling for the construction of four or five satellite towns as great experiments, a major contribution could be made to housing progress.

Upon such research also must be founded patterns to govern city growth; individual planning commissions need more facts than are available to them. Such patterns must be comprehensive, must be cut to a long-range policy. Why clear slums and construct new buildings in an area that properly is in line for conversion to industrial use? Blight—that terrible evil of American cities, one of the greatest wastes our country exhibits—must be stopped; past efforts in this direction have been weak and futile. A great help could be rendered municipalities by thoughtful proposals to this end. Government need not, should not, rebuild cities itself; ours is a system of checks and counter-checks to prevent the exercise of an absolutely dominant authority. But help to municipalities in solving such problems is a distinct function of central government.

Our American cities have taken some forward steps, but others remain to be taken. Bad practice in construction has been reduced by building codes often too stringent rather than too lenient; bad practice in method of growth resulting

in blighted neighborhoods has been brought under some control by planning and zoning commissions, although blight remains a major evil requiring further special study. The movement outward has resulted in many formerly attractive neighborhoods becoming less desirable, and the leaving of many lots unbuilt upon, despite the fact that streets and all facilities are installed.

There likewise should be a comprehensive pattern for gradual elimination of dilapidated housing in each community. Accompanying it, should be the means evolved for aids to private enterprise, offered only when improvements conform to the pattern. The laws of the various states under which housing corporations are authorized should be remodeled to the end of eliminating various ridiculous restrictions and making investment in such corporations reasonably safe and really attractive to private capital. A frequent provision, for instance, is a restriction against sale; again arbitrary power often is given political boards of control. Government must determine the aids necessary in order that such corporations may provide housing for the less fortunate. The aids should not be uneconomic in character. If subsidy is needed, if family income is insufficient to meet economic rents, then Government should subsidize the family, not the housing.

For purposes of the emergency, the corporations might be granted the benefit of the low interest rates at which government can secure funds. The same policy could be followed in connection with a portion of the mortgage debt on homes to be constructed. The low interest could be passed on to the purchaser. With such an advantage securable only for a brief period, operative builders would find means to build, and purchasers would be available ready to buy. Why not try a plan for those of modest, as opposed to low, income? Government could find innumerable ways to help private enterprise if it desired, so that construction could be started without government being a direct actor. It probably would be cheaper for government in the long run to give away lots in an area acquired by it to those who would build at once. It is easy to conceive that homes built to rent, with the government as landlord, will prove a very expensive proposition.

A heavy burden which bears unduly on housing is that of inordinate taxes resulting from an obsolete tax system. Government might use its great power and influence to induce the lifting of this weight and the adoption of more modern systems in the different states. Of the larger nations, this is the only one preserving the obnoxious "ad valorem" tax on living units.

Conclusion

There is no royal road to elimination of blight and dilapidated housing. The matter is one for long-term planning and, in its major aspects, should be freed from the urge governing emergency action which always tends to cast aside or warp sound principles. Real estate used for housing is one of the chief items in our national wealth, as well as the base for local taxation in every community. Carelessly designed federal activity, which disturbs base practices, cannot fail to bring with it serious reactions affecting the whole economic fabric—repercussions which are likely to appear in unthought-of directions. Quite obviously, housing in America should be kept as a private enterprise with helps and economic direction provided by government. The work of different federal agencies can

be adjusted so that this work in connection with housing not only ceases to conflict with, but stimulates private enterprise, and really shows the way to large-scale operations to the benefit of the whole housing scheme.

The primary purpose of government, after it has taken the proper steps to preserve peace and order, is to protect the citizen's rights and to be helpful in affording him opportunity for successfully conducting the business of life and getting a reasonable comfort of existence from it. Government should be extremely reluctant to enter private fields, even though they be touched with a clear public interest, as is housing, until all other available means for securing desired results have been exhausted. The national weal demands that children have pure milk; but this is no reason why government must own the cows, the lands on which they graze, and the dairy barns where they are housed and tended.

Systems of civilization have their roots in the past. Our own has absorbed strength and vigor from the soil prepared for it by the farseeing founders of our Republic. Their visualization, as can be seen from the writings of one after another of our early leaders, was of a race of freemen, made independent by individual ownership of the land. Life indeed has grown more intricate, and as our civilization has progressed it has become necessary to add to the heritage left us, to cut away dead wood here, to encourage new growth there; but never has arisen any sound reason to question the ideal that goes to the heart of our democratic existence—wide home ownership. Instead of discouraging, we must cultivate this ideal so as to keep the core of our national life well nourished. Let us think carefully before forsaking it, even by implication. As surely as we do, the old past, from which this nation departed when it was founded, will revenge itself upon us and become our future. Land and home control by governments or ruling classes ever have resulted in enslavement of the individual.

The Volume of Public Utility Financing, 1919-1935

By E. D. OSTRANDER*

EARLIER issues of the *Journal* presented periodical summaries of index numbers of the volume of public utility financing, following the introduction of the subject by Herbert B. Dorau in 1925.[1] The purpose of the present summary is to revise the index and bring it down to date.

For the revised index presented here, the base for the monthly series is the monthly average during 1926, the base for the quarterly series is the quarterly average during 1926, and the base for the annual series is the total volume during the year 1926. As formerly published, the index number had the volume of financing in the month of January, 1919 as the base for the monthly index, the volume in the first quarter of 1919 for the quarterly index, and the volume for the year 1919 for the annual index.

The reasons for shifting the base period from 1919 to 1926 and for revising the method from a single month or quarter to the average are: (1) a more recent year is believed to be desirable from a statistical standpoint; (2) for January, 1926, and subsequent months revised original data[2] are available, it therefore being preferable to use a year subsequent to 1925 as the base; (3) the year 1926 is considered as "normal" by many students and is used as a base for other index numbers, such as the United States Bureau of Labor Statistics' Wholesale Price series; and finally (4) a study of the trend of the volume of public utility financing (Chart I) indicates that after 1926 marked interruptions occurred in the movement of the volume of financing.[3]

It should be noted, as mentioned above, that for the revised monthly index the base is the *monthly average* of 1926, not just a single month in 1926. In like manner, the new quarterly series has the 1926 *quarterly average* as a base rather than a given quarter during the year. The broader base given by this method is believed to be desirable in view of the frequently fortuitous character of the volume of financing in any one month or quarter. In addition, this method makes possible mathematical proof of the accuracy of the compu-

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[1] "Public Utility Financing, 1919-1925," 1 *Journal of Land & Public Utility Economics* 305-21 (July, 1925). For subsequent Departmental articles see 1 *Ibid.*, 499-501; 2 *Ibid.*, 124-5, 364-6, and 476-9; 3 *Ibid.*, 98-100, 217-9, 331-3, and 430-2; 4 *Ibid.*, 97-9, 316-7, and 428-30; 5 *Ibid.*, 91, 200-3, and 425-30; 6 *Ibid.*, 208-12, 312-5, and 428-30; and 7 *Ibid.*, 97-102 and 203-7.

[2] The original data upon which the index number computations are based have been taken from the *Commercial & Financial Chronicle's* monthly compilations of new capital flotations. In January, 1930, the *Chronicle* revised its classifications to show separately "Investment Trusts, Trading and Holding Companies, not primarily controlling." This revision was made retroactive through 1926 and the new data are used in the present summary whereas for the index number heretofore published the older data were used. The *Chronicle's* data for public utilities include all industrial types except steam railroads. Foreign issues offered in the United States are also included. Hence, in following the *Chronicle's* classification, the term "public utility" as used herein is defined to include all types, such as electric, gas, water, telephone, telegraph, and traction, excepting steam railroads. Holding companies having actual control over operating units are thus also included.

[3] Consideration was also given to the advisability of using the average of a three-year period, such as 1926, 1927 and 1928, as a base. No three-year period which did not extend back of 1926, i. e., into the unrevised data, appeared logical, however, in view of economic conditions and the behavior of the volume of financing subsequent to 1926. In addition, the single-year base carries the advantages of simplicity in interpolation. For these reasons the single year rather than an average of two or more years was adopted for the base period.

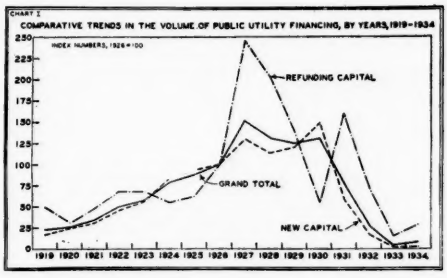
tations. That is, after the monthly index numbers are computed for any year, the annual index may be obtained by taking the arithmetic average of the 12 monthly items. The result, if the computations are correct, is identical with the annual index obtained by computing directly from the annual totals. In like fashion, the quarterly index numbers may be obtained by taking the arithmetic average of the three monthly items in any quarter, and again the results should square with those obtained directly from quarterly totals. Still further, the arithmetic average of the four quarterly figures for any year gives the identical annual index obtained by the two other methods.

The present index numbers are carried a step further than those formerly presented. Heretofore an index was given only for the grand total volume of financing, covering both new and refunding capital. In the present summary, three index number series are given. Table I presents the index number for the grand total; Table II the index number for total new capital; and Table III the index number for total refunding capital. The annual index numbers for each of the series are plotted on Chart I.

Each of the three sets of index numbers is computed by the same method already described; and in each case the base periods are the same. Obviously, however, the dollar volume in the base period varies for each series. These 1926 base-period volumes are:

	Grand Total	Total New Capital	Total Refunding Capital
Monthly Index...	$ 163,995,945	$ 133,157,115	$30,838,831
Quarterly Index...	491,987,836	399,471,344	92,516,492
Annual Index...	1,967,951,346	1,597,885,376	370,065,970

Inspection of the chart shows that the grand total and the new capital series move together fairly well, but the refunding capital series shows wide fluctuations from the other two. This behavior is attributable in part to the fact that taken year by year the proportions of the grand total represented by the two components vary widely, especially after 1929, and in part to the fact that new capital carried a much greater weight in the total than refunding capital until the past three years (1932-1934).



The discussion up to this point has been concerned primarily with methodology. Let us turn now to a brief summary of the more important points revealed by the analysis.

The grand total volume of public utility financing reached its peak in 1927 but declined in each of the two following years. A rise followed in 1930 to a level almost identical with 1928. The rapid decline after 1930 as the depression deepened carried the volume of public utility financing to almost negligible sums in 1933 and 1934. It may be noted from the monthly and quarterly series that the decline did not in fact begin until after the first six months of 1931, and not until 1933 were there months during which no public utility financing whatever was done. There was some recovery during the first half of 1934 from the very low levels found

in the last half of 1933, and during the last half of 1934 still further recovery occurred and has continued into 1935.

The volume of financing for new capital purposes did not reach its peak until 1930, a rather surprising result when contrasted with the 1927 peak for the grand total and in view of the fact that the recession in general business activity was already under way in 1929. Two factors appear as rather plausible explanations of the rise in new capital financing in 1930. First, the utilities in many instances had not yet encountered declining revenues; and second, there was no realization that the depression would plumb the depths which it did reach and thus the utilities carried forward their expansion programs as had been the custom during the 1920's.[4] The second highest year, 1927, in the volume of new capital was followed by a slight drop in 1928, but by a rise in 1929 as against a decline in that year for the grand total. New capital financing fell very sharply after 1930, however, and went nearly to zero in 1933. Very little recovery occurred in 1934 nor has there been a noticeable recovery thus far in 1935.

The volume of public utility financing for refunding purposes rose very sharply in 1927, but declined rapidly during the three succeeding years. In view of favorable bond market conditions during the first half of 1931, the utilities effected an increased volume of refunding operations with the result that the index for that year shows a marked rise. The first two quarters of 1931 were unusually high, followed by declines in the last two quarters.[5] In both 1932 and 1933 the volume of re-

[4] Utility leaders may also attribute the 1930 expansion programs in part to the pledge to cooperate with President Hoover's efforts to maintain employment and business activity, for which purpose he called the nation's industrial leaders in conference at Washington late in 1929.

[5] It should be noted in connection with the index for refunding capital that the base volume for the monthly series is not a large figure (approximately $31,000,000), hence, the appearance in any month of a sizable refunding issue can produce a marked rise in the index. For example, the April, 1931, index is 481.37, but in that month the Pennsylvania Power & Light Company issued $100,000,000 First 4½s of 1981 and this one issue is equal to 324% of the base volume for the monthly refunding series. This situation lessens the value of the index for refunding capital, but, inasmuch as 1926 is the preferable base year for the grand total and new capital indexes and since the same base period is required for all series, the fault must stand as a limit inherent in the data.

TABLE I. INDEX NUMBERS OF THE VOLUME OF PUBLIC UTILITY FINANCING, 1919-1935, GRAND TOTAL*

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
By Months:																	
January	72.79	49.04	40.10	33.81	88.95	81.42	144.96	125.15	189.08	125.10	106.76	300.01	197.63	27.21	27.39	0.91	1.81
February	34.72	20.05	18.03	34.55	47.99	64.63	125.20	90.34	228.53	160.26	154.27	105.15	39.19	21.28	0.25	7.32	6.71
March	17.99	19.89	18.48	31.55	68.54	57.02	104.61	83.80	114.77	142.22	192.85	139.32	61.83	31.16	1.31	9.15	35.65
April	3.69	27.75	18.55	36.57	46.42	81.88	50.25	131.67	119.96	232.00	77.63	79.74	186.38	28.18	17.14	3.40	51.43
May	11.02	27.80	25.79	109.54	47.80	169.91	74.96	167.58	155.62	147.38	209.10	368.60	128.07	13.43	4.02	4.88	11.89
June	19.11	14.60	6.86	70.20	67.32	88.73	86.23	131.02	94.52	227.80	85.09	104.94	134.40	12.13	1.83	2.44	53.76
July	30.03	18.34	83.48	31.68	15.29	75.83	65.77	129.17	70.34	35.12	195.00	142.97	83.42	67.40	4.27	26.53	206.46
August	14.68	8.36	23.73	15.67	28.94	45.20	68.01	42.34	61.64	59.62	66.41	29.31	16.74	60.98	Nil	3.85	21.59
September	39.53	32.10	24.55	107.20	24.83	55.77	79.93	28.01	122.06	123.32	231.89	105.03	25.66	5.93	Nil	8.04	100.11
October	17.76	23.84	24.11	56.11	43.07	81.27	66.82	89.22	190.15	127.80	62.41	63.81	1.22	36.91	Nil	12.20	.....
November	6.09	15.10	86.75	31.53	116.94	50.01	74.05	98.37	153.35	64.64	16.16	54.72	31.27	22.93	Nil	17.07	.....
December	14.47	46.06	38.78	39.43	98.07	81.04	111.08	83.33	315.50	117.14	91.94	71.21	32.36	1.90	0.34	0.83	.....
By Quarters:																	
First Quarter	41.83	29.66	25.54	33.30	68.49	67.69	124.92	99.76	177.46	142.53	151.29	181.49	99.55	26.55	9.65	5.79	14.72
Second Quarter	11.27	23.38	17.19	72.10	53.85	113.50	70.48	143.42	123.37	202.39	123.94	184.43	149.62	17.91	7.67	3.57	39.03
Third Quarter	28.08	19.60	43.92	51.52	23.02	58.93	71.23	66.51	84.68	72.69	164.43	92.44	41.94	44.77	1.42	12.81	109.39
Fourth Quarter	12.77	28.33	49.88	42.36	86.03	70.77	83.98	90.31	219.67	103.19	56.84	63.25	21.68	20.58	0.11	10.03	.....
By Years:	23.49	25.24	34.10	49.82	57.85	77.73	87.66	100.00	151.29	130.20	124.13	130.40	78.20	27.45	4.71	8.05	.....

* Monthly average, 1926; equals 100 for the monthly series; quarterly average, 1926, equals 100 for the quarterly series; and the year's total for 1926 equals 100 for the annual series.

TABLE II. INDEX NUMBERS OF THE VOLUME OF PUBLIC UTILITY FINANCING, 1919-1935, GRAND TOTAL NEW CAPITAL*

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
By Months:																	
January	44.53	20.78	41.00	22.60	75.88	84.98	160.43	134.79	161.73	104.20	98.06	355.12	149.26	32.38	5.19	Nil	1.92
February	26.43	21.51	16.66	28.17	51.88	69.05	150.61	98.33	196.40	112.34	133.77	122.42	41.34	22.76	0.31	9.01	0.75
March	13.74	16.03	17.50	34.81	66.24	67.82	90.92	91.53	104.61	72.67	197.93	168.71	46.37	31.54	Nil	1.83	5.26
April	2.48	33.16	20.22	25.09	33.30	87.16	56.93	101.82	99.36	144.05	85.40	94.83	118.06	9.82	12.32	Nil	Nil
May	7.94	29.48	22.47	104.30	45.89	208.09	75.31	200.54	120.81	100.58	172.41	427.80	98.62	5.28	0.38	6.01	Nil
June	10.83	11.93	6.58	71.37	51.06	71.71	83.45	106.25	97.79	228.09	95.80	122.14	84.39	3.03	2.25	Nil	0.38
July	21.56	18.16	95.45	20.46	18.61	78.24	58.59	142.70	82.21	43.26	221.39	165.91	75.39	46.19	5.26	8.26	7.08
August	18.09	10.30	26.51	16.27	23.40	53.77	71.53	36.11	57.59	68.85	68.39	35.09	16.26	11.55	Nil	4.74	2.46
September	44.93	38.49	7.25	115.13	29.71	45.39	96.64	30.74	114.81	144.23	177.51	86.57	23.25	4.39	Nil	2.39	14.49
October	9.48	25.23	18.62	47.44	49.67	84.51	69.13	78.46	150.05	148.24	72.27	43.39	1.50	33.58	Nil	Nil	.....
November	5.80	13.07	79.44	17.75	101.53	56.45	86.70	97.90	89.75	73.23	19.61	67.27	26.48	4.99	Nil	4.83	.....
December	3.59	48.99	17.74	42.00	119.71	88.34	123.33	80.83	275.93	120.68	108.36	86.95	31.49	0.51	Nil	Nil	.....
By Quarters:																	
First Quarter	28.23	19.44	25.05	28.53	64.67	73.95	133.09	108.22	154.24	96.40	143.25	215.42	78.99	28.89	1.83	3.61	2.64
Second Quarter	7.08	24.86	16.42	66.92	43.43	122.32	71.90	139.53	105.99	157.57	117.87	214.92	100.36	6.04	4.98	2.00	0.13
Third Quarter	28.19	22.32	43.07	50.62	23.90	59.13	75.59	69.85	84.87	85.45	155.76	95.86	38.30	20.71	1.75	5.13	8.01
Fourth Quarter	6.29	29.10	38.60	35.73	90.30	76.43	93.05	85.73	171.91	114.05	66.75	65.87	19.82	13.03	Nil	1.61	.....
By Years:	17.45	23.93	30.79	45.45	55.57	82.96	93.63	100.00	129.25	113.37	120.91	148.02	59.37	17.17	2.14	3.09	.....

* Monthly average, 1926, equals 100 for the monthly series; quarterly average, 1926, equals 100 for the quarterly series; and the year's total for 1926 equals 100 for the annual series.

funding capital fell sharply, but in neither year did the decline carry to such low levels as those for new capital. The volume of refunding capital staged a small recovery in 1934 which has continued with increased vigor into 1935, the monthly index soaring to 1067.36 for July. This rapid rise reflects the very low level of interest rates on high grade utility bonds which has made it profitable for strong operating companies to refund outstanding issues carrying higher coupon rates.

The data reveal no well defined seasonal movement, but when the quarters are ranked during each of the 16 years, a slight tendency for greater volume of financing during the first two than in the last two quarters is noticeable. The third quarter tends to rank the lowest, but it is highly unsafe to draw any firm conclusions with respect to seasonality.

The proportions of the grand total of utility financing represented by new capital and by refunding capital have fluctuated widely during the period as

TABLE III. INDEX NUMBERS OF THE VOLUME OF PUBLIC UTILITY FINANCING, 1919-1935, GRAND TOTAL REFUNDING CAPITAL*

	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935
By Months:																	
January	194.81	171.07	36.23	82.20	145.38	66.07	78.22	83.55	307.16	215.33	144.32	62.03	406.48	4.86	123.28	4.86	1.30
February	70.52	13.74	23.92	62.10	31.21	45.56	15.47	55.87	367.24	367.19	242.81	30.59	29.91	14.88	Nil	Nil	32.43
March	36.32	36.56	22.70	17.49	78.48	10.37	163.73	50.40	158.60	442.53	170.89	12.44	128.56	29.50	6.96	40.76	166.90
April	8.92	4.40	11.35	86.15	103.12	59.09	21.38	260.56	208.90	611.77	44.10	14.59	481.37	107.41	37.95	18.10	273.48
May	24.32	20.56	40.14	132.13	56.01	5.03	73.44	25.28	305.95	349.44	367.53	112.95	255.20	48.64	19.75	Nil	63.23
June	54.88	26.12	8.08	65.18	137.56	162.20	98.24	237.98	80.39	226.57	38.85	30.67	350.37	51.41	Nil	12.97	284.27
July	66.60	19.15	31.78	80.12	0.97	65.43	96.75	70.75	19.11	Nil	81.07	43.93	118.08	158.98	Nil	105.39	1067.36
August	Nil	Nil	11.71	13.07	52.87	8.21	52.81	69.23	79.14	19.78	57.87	4.38	18.81	274.37	Nil	Nil	104.20
September	16.22	4.53	99.25	72.96	3.73	100.63	7.78	16.22	153.37	33.01	466.70	184.72	36.06	12.59	Nil	32.43	469.77
October	53.50	17.83	47.79	93.56	14.59	67.29	56.89	135.65	363.27	39.56	19.86	151.97	Nil	51.28	Nil	64.85	.....
November	7.30	23.88	118.32	90.99	183.44	22.21	19.46	100.42	427.93	27.57	1.30	0.51	51.98	100.39	Nil	69.95	.....
December	61.43	33.38	129.65	28.31	4.62	49.54	58.19	94.09	486.36	101.88	21.05	3.24	37.17	7.93	1.78	4.41	.....
By Quarters:																	
First Quarter	100.55	73.79	27.62	53.93	85.02	40.67	85.81	63.27	277.67	341.68	186.01	35.02	188.32	16.41	43.41	15.21	66.88
Second Quarter	29.37	17.03	19.86	94.49	98.90	75.44	64.35	174.61	198.41	395.93	150.16	52.74	362.31	69.15	19.23	10.36	206.99
Third Quarter	27.61	7.89	47.58	55.38	19.19	58.09	52.45	52.07	83.87	17.60	201.88	77.68	57.65	148.65	Nil	45.94	547.11
Fourth Quarter	40.74	25.03	98.59	70.95	67.55	46.35	44.85	110.05	425.85	56.34	14.07	51.91	29.72	53.20	0.59	46.40	.....
By Years:	49.57	30.94	48.41	68.69	67.67	55.14	61.86	100.00	246.45	202.89	138.03	54.34	159.50	71.85	15.81	29.48	.....

* Monthly average, 1926, equals 100 for the monthly series; quarterly average, 1926, equals 100 for the quarterly series; and the year's total for 1926 equals 100 for the annual series.

may be seen by referring to Table IV. For the 16-year period new capital comprised 76.3% of the total and refunding capital accounted for 23.7%. This predominance of new capital is to be expected for an industry that has been passing through a period of rapid growth and expansion. From 1919 through 1925, the relative importance of refunding capital declined, but this trend was reversed in 1926 and 1927.

TABLE IV. THE PROPORTION OF PUBLIC UTILITY FINANCING REPRESENTED BY NEW CAPITAL AND BY REFUNDING CAPITAL, 1919-1934

Year	New Capital	Refunding Capital	Total
1919.....	60.3%	39.7%	100.0%
1920.....	77.0	23.0	100.0
1921.....	73.3	26.7	100.0
1922.....	74.1	25.9	100.0
1923.....	78.0	22.0	100.0
1924.....	86.7	13.3	100.0
1925.....	86.7	13.3	100.0
1926.....	81.2	18.8	100.0
1927.....	69.4	30.6	100.0
1928.....	70.7	29.3	100.0
1929.....	79.1	20.9	100.0
1930.....	92.2	7.8	100.0
1931.....	61.6	38.4	100.0
1932.....	50.8	49.2	100.0
1933.....	36.9	63.1	100.0
1934.....	31.2	68.8	100.0
Total.... 1919-1934	76.3%	23.7%	100.0%

Little change took place in 1928, but the relative importance of refunding capital dropped in 1929 and again in 1930 when it represented only 7.8% of the total, the lowest of any year during the period. In each year since 1930 the relative importance of refunding capital has increased, reaching 68.8% in 1934. This trend has very definitely continued into 1935 as may be seen from the fact that for the first nine months of this year refunding capital has accounted for 94.05% of the total volume of public utility financing.

The analysis herein presented does no more than scratch the surface of the broad possibilities for statistical treatment offered by the extensive compilations of corporate and governmental financing made by the *Commercial & Financial Chronicle*. Further analysis would show the comparative trends of the volume of financing by long-term debt, short-term debt, and by stocks. Each of these in turn could be broken down into new and refunding capital. Studies could also be made by industries, such as electric, gas, water and telephone. The price of new capital as well as its volume might also be examined, and the relative importance of utility financing to that in other fields might prove of interest. These and similar points are being considered and the results of such studies as it may be possible to make will be presented upon completion, either as regular articles or Department studies. The Public Utilities Department of the *Journal* intends to keep the present index numbers, and such others as may be computed, up to date periodically.

Urban Real Estate Mortgage Delinquency

By ROY J. BURROUGHS*

THE objective of this analysis is to indicate the practical significance of early and repeated defaults on urban real estate mortgages, and to observe particular factors associated with defaulted payments. Obviously, borrowers must default on their payments—i. e., become delinquent—before a question of foreclosure may arise. Ordinarily, foreclosure is a last resort. Hence, a good way to determine the probability that certain mortgages will or will not be paid at maturity is to study tendencies toward, and factors related to, delinquency.

Other things being equal, a lender receives a smaller return from loans that default from time to time than from loans that pay interest and principal instalments on time. Delinquency necessitates higher collection and administrative burdens and entails an implicit interest-cost, i. e., a loss of earnings on capital. These are good reasons for avoiding loans that are likely to become delinquent, or perhaps for charging a higher rate to cover the added expense involved in such loans.

But the chief reason why a lender desires to avoid loans which may suffer from delinquency is that they may go entirely "sour", and thus necessitate foreclosure or other forced adjustment. This is expensive. Whether or not heavy losses will occur depends entirely upon the going market price for the pledged property. But, no matter what the market price may be, if a lender can forestall delinquency in the payment of interest or of instalments on the principal, no foreclosure need be feared.

The data on which this study is based were derived from the experience of a Cleveland loan firm. To avoid tedium, only a few of the figures obtained are reported here. Records were surveyed for the period 1920-1931. Practically all loans studied were first mortgages on city real estate, distributed as to use-type as follows:

Use-Type	*Per Cent of Total*
One-family residences	69.67%
Two-family residences	15.30
Multi-family residences	3.35
Vacant lots	2.60
Allotments or subdivisions	1.00
Commercial	2.83
Industrial	.65
Farms	1.07
Churches	1.15
Miscellaneous	2.41

About 15% of these loans were amortized monthly for a term of about 16 years. The rest, though for the same term, were amortized quarterly. It will be shown later that this distinction is significant. The prevailing interest rate was 6% on unpaid balances.

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Based on an accepted doctoral dissertation on file with the Graduate School of the University of Michigan. Questions as to method are fully treated in the dissertation. The advice of Professor E. M. Fisher (now Director of the Division of Research and Statistics, Federal Housing Administration) in preparation of the dissertation is gratefully acknowledged.

The results of a similar, but more recent, study by an anonymous writer in which decidedly parallel results are reported may be found in the *Federal Home Loan Bank Review*, December, 1934, pp. 79-84. See also Lodge, Edgar A., "A Mortgage Analysis, 1906-1934," Home Title Guaranty Co., 1935.

The Division of Research and Statistics of the Federal Housing Administration is now sponsoring a very extensive study of mortgage risk.

The maximum ratio of the amount of loan to appraised value of the property which was permitted by the firm in the course of its normal lending operations was 66%. A few loans of over 66% were acquired to protect other equities. As a consequence of this limit, no comment can be made concerning loans representing a larger portion of the appraised value of the property. In so far as regularity of payment was concerned, borrowers with only a 34% equity (66% loan) proved no different from borrowers with much higher equities in their own properties. However, it would seem probable that a borrower with an extremely small equity would be less willing to make any sacrifice involved in keeping up his obligations. The importance of this question will be recognized when it is recalled that the National Housing Act makes insurance available for 80% loans and that the Banking Act of 1935 authorizes national banks to make 80%[1] loans under certain conditions, provided they are insured by the Federal Housing Administration under the mutual insurance plan.

In pursuing this study of delinquent mortgages 26,500 loans, totaling over $170,000,000, were available from which to choose a sample. A sample of 6,600 loans with an estimated value of $42,500,000 was selected at random, and from this group the records of 2,472 cases (face value, about $15,800,000) were taken. On one or more occasions, these loans had been 30 or more days delinquent in payment of either interest or a principal instalment, or both.

Delinquency Ever Present

Business men have commonly contended that the depression caused delinquent mortgages and that, since lenders cannot control the business cycle, they are powerless to prevent delinquent mortgages from appearing on their books.

No one will dispute that delinquency became a more acute problem as the depression continued, but the following experience of the Cleveland firm shows that delinquent mortgages occurred in the best of years:

*Year**	*Per Cent of Mortgages with Delinquent Interest†*	*Year**	*Per Cent of Mortgages with Delinquent Interest†*
1920	6.54%	1926	6.20%
1921	8.87	1927	6.14
1922	11.36	1928	6.05
1923	8.08	1929	7.31
1924	5.45	1930	8.61
1925	6.73	1931	10.93

* As of July 15.
† Delinquent mortgages are defined as those which were 30 or more days in arrears on either principal or interest payments or on both.

Obviously, the depression years were those of greatest delinquency, but the striking fact remains that so much delinquency occurred in prosperous years. Chart I presents the same information concerning delinquency and compares it with the trend of business activity.

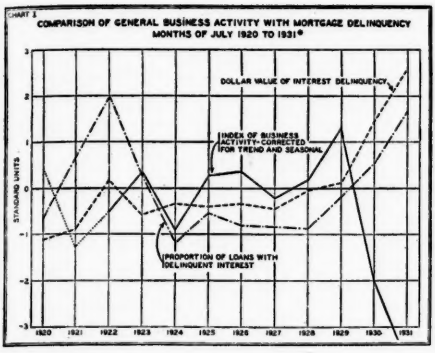
It appears that delinquency, though chronic, was not an acute problem in this firm until 1929. Nevertheless, the sheriff's office of Cuyahoga County, in which Cleveland is located, reports a considerable increase in orders for sale following foreclosure as early as 1922, with a big increase in 1927.[2] The differ-

[1] Title II, Sec. 208 amends Sec. 24 of the Federal Reserve Act so as to permit purchase of insured loans without limitation as to ratio of mortgage to appraised value. The National Housing Act (H. R. 9620, Title II, Sec. 203, (b)-(2)) permits insurance of 80% loans except that in the case of insurance for mortgages on large-scale housing, known as "Low-Cost Housing", insurance may be issued up to any portion of the appraised value of the property, at the discretion of the Administrator (Sec. 207).

[2] Orders for sale were as follows:

1920—171	1923— 973	1926—1,083
1921—237	1924— 955	1927—1,818
1922—729	1925—1,073	1928—2,472

(Footnote 2 continued on page 359)



*Business Activity figures for the years 1920-21 were estimated from the AT & T index of general business for the United States as a whole, indicated by the dotted line.

ence between the experience of the co-operating firm and of all other lenders, as reported by the sheriff, is to be accounted for by the more careful choice of loans made by the former. Evidently other firms suffered from considerable delinquency throughout the twenties, though the greatest increase occurred in the depression years of 1922 and 1929-32.

The Building and Subdivision Excess

Excess construction and excess subdivision activity will account for some of the mortgage difficulties observed. Had the Real Property Inventory[3] been undertaken during the twenties, much light would have been shed on the situation. As it is, no reliable data on this subject are available to the public. Hearsay evidence is to the effect that the Cleveland area, like many similar metropolitan communities, had made up its war-time housing shortage by 1924 and that thereafter a surplus occurred. The peak construction year was 1925, though not until 1929 was there a drastic and permanent decline. The lending firm under consideration increased its loan portfolio at approximately the same rate as construction increased. It is therefore subject to criticism as being partially responsible for excess building of certain use-types and thus for wasting social capital which might have been used more effectively elsewhere, as, for instance, in low-cost housing. In any event, one may suppose that a building surplus would cause the default of certain loans.

While data concerning the building surplus are not available, some facts concerning the surplus of subdivided lots do exist.[4] It has been estimated that in 1920 there were 120,000 vacant lots in the Cleveland metropolitan area. During the decade 1920-30 only 65,000 lots were utilized by new construction. Yet, despite the excess supply, 110,000 new lots were platted during these 10 years. In 1926 nearly three lots were platted for each new family in the community, although 25 lots for each new family already were available at that time. If no more platting occurs, and if lots are utilized at the average rate which prevailed during the past decade —i. e., 6,500 per year—it will be 1955 before all lots are put to use. Chart II illustrates this situation.

Undoubtedly, the unbalanced subdivision situation was an element in causing delinquency of loans on this type of property. However, only 3.60% of the loans of the firm studied were secured by subdivision mortgages. While in 1928 and 1929 several subdivision defaults involving large amounts of interest occurred, they did not

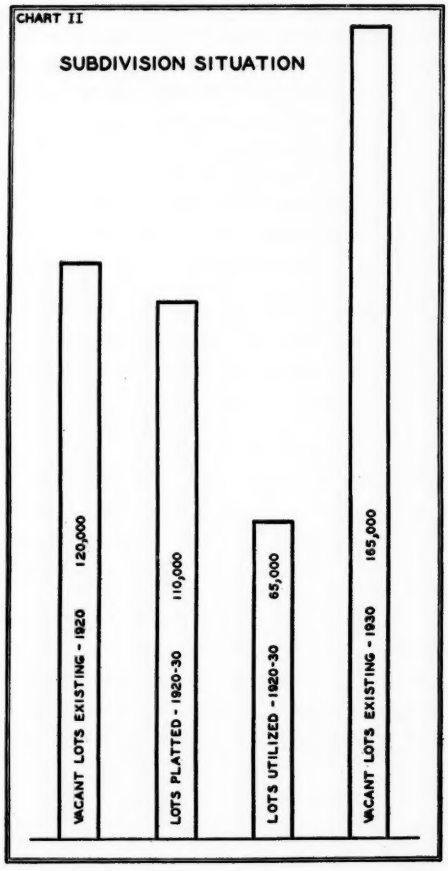
(*Footnote 2 Continued from page 358*)

1929—2,809 1931—2,942 1933—1,767
1930—2,861 1932—3,036

It has been pointed out that the 1921-22 increase was over 300% whereas the 1926-27 increase was less than 75%; nevertheless, the absolute amounts of the latter period are far greater and probably represent a considerably greater portion of outstanding mortgages.

[3] "Real Property Inventory of the Cleveland Metropolitan District," Committee on Real Property Inventory, 1933.

[4] *Report*, Division of Housing of United States Department of Commerce; also "Real Property Inventory of Cleveland Metropolitan District."



appreciably affect the number of individual cases.

Delinquency First Apparent Early

Regardless of the business situation and regardless of the construction or subdivision situation, year after year we find that a very large proportion of the loans with delinquent interest had been delinquent in either principal or interest during the first three years of their life. The reader will recall that amortization was 6% annually and that about 16 years were required for repayment. Hence, despite the rapid growth of the loan portfolio during the early twenties, the large number of older loans caused the average loan age to be substantially over three years.

Chart III shows, by years, the extent to which loans that were delinquent in interest payments had been delinquent as to either principal or interest during the first three years of their life. While, during the years of expanding portfolio prior to 1930, from 41.07 to 61.54% of the loans with delinquent interest were then in the first three years of their life, in 1930 only 23.96% and in 1931 only 9.28% of the delinquent loans were under three years of age. However, 85% of all loans with delinquent interest in July, 1930, had been delinquent

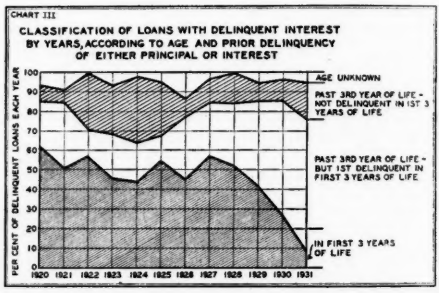
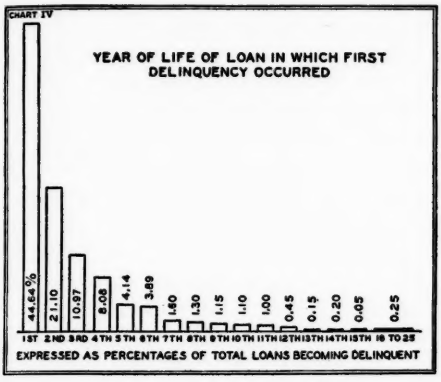


CHART III
CLASSIFICATION OF LOANS WITH DELINQUENT INTEREST BY YEARS, ACCORDING TO AGE AND PRIOR DELINQUENCY OF EITHER PRINCIPAL OR INTEREST
PER CENT OF DELINQUENT LOANS EACH YEAR
AGE UNKNOWN
PAST 3RD YEAR OF LIFE - NOT DELINQUENT IN 1ST 3 YEARS OF LIFE
PAST 3RD YEAR OF LIFE - BUT 1ST DELINQUENT IN FIRST 3 YEARS OF LIFE
IN FIRST 3 YEARS OF LIFE
1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931

in either principal or interest during the first three years of their life. In 1931, 75% of the delinquents fell in the class of those having prior early delinquency. Eliminating the loans whose age was unknown, only 19% of all loans over three years of age and delinquent in interest in 1931 had not been delinquent in the first three years of life.

Turning from the year-to-year evidence to the total sample, one observes that, out of 2,005 loans that had been delinquent in *either principal or interest* for a period of 30 days or more at any time between 1920 and 1931, 1,538 (76.71%) had been delinquent for the first time prior to becoming three years

of age. Moreover, Chart IV shows that, of all the loans which were ever to become delinquent, 44.64% defaulted in their first year of life; 21.10% became delinquent for the first time during their second year of life; and 10.97% during the third year. It is thus evident that, so far as this Cleveland firm was concerned, if a loan was ever to become delinquent, it stood three chances out of four of giving fair warning during its first three years of life. The significance of this observation will receive attention in the following section.



Delinquents Are Repeaters

It has been demonstrated that, if delinquency is to appear at all, it will probably first become evident in the initial three years of the life of the mortgage. It is now to be noted that the chances are nine out of ten that a loan, once in default, will be in arrears again.

Of 1,129 mortgages which had once been delinquent in principal, 93% were again delinquent in amortization payments one or more times. Over ⅓ of these mortgages that defaulted in principal payments also were delinquent as to interest at the same or at some later July 15 quarterly-payment period; and undoubtedly many others were delinquent at other quarterly-payment periods. Since a borrower was encouraged to pay his interest even though he was unable to maintain the principal instalments, only 18.6% of the cases were delinquent in both principal and interest at the time of initial delinquency. Interest delinquency ordinarily appeared at some later date, perhaps as savings were used up or as salary cuts or increasing unemployment further reduced the mortgagors' paying ability. Or may it be that previous defaults in one obligation make a borrower callous to the claims of another?

Concerning interest defaults only, 54% of the cases of delinquent interest were again delinquent as to interest on some July 15 payment date. If such a large number were again delinquent at the time of one quarterly payment, how many more were delinquent at other quarterly dates!

Generalization based on such scanty data is dangerous, but, if it can be assumed that ¾ of all loans which are ever to become delinquent will do so in the initial three-year period, and that a loan once in arrears is almost certain to default again, then it behooves mortgage lenders either to avoid loans which seem likely to become delinquent or else to charge a rate sufficient to take account of the increased cost and risk attached to such loans.

Some firms may find it advisable to avoid potential cases of delinquency entirely. Of course, such great conservatism must be paid for with lower rate charges. When the present emergency has passed, the Federal Home Loan Bank System might consider limiting its portfolio to loans of more than three years' standing without prior delinquency. Before such a policy could be considered, it would be necessary to determine how many loans could so

qualify. Judging from the sample, the Cleveland firm could have qualified almost ½ its loans (44.5%) in July, 1931. A random sample of loans which this firm had at one time carried, but which were no longer on the books, revealed that 80.4% would have so qualified. Were the Federal Home Loan Bank System so to limit itself to seasoned, unblemished loans, it would keep its strength available for any emergency. More important still, it could attract a great volume of funds and float its debentures at a very low rate of interest. If the funds attracted were passed back through money-lenders to money-users, they would constitute a boon to the construction industry.

Not only the Federal Home Loan Bank System may avoid most of its delinquency by proper policies of selection; any bank, insurance company, or other lender, which refinances building and loan or other mortgages after the owners' equity in such mortgages has been increased to the required level, may do the same thing.

The chief executive of the firm which supplied the data for this study made the following comment in this connection:

"I was quite impressed with the statement that if a mortgage did not become delinquent in the first three years of its life, it would probably continue on to maturity in a way that would be entirely satisfactory to the lender. I feel that a real test should be made to determine the accuracy of this statement, and if it should be found that it is correct, we should apply this test in the future to all our new mortgages. In other words, if the borrower becomes delinquent in the first two or three years, it ought to be a red flag to us that the loan is headed for ultimate foreclosure, and pressure should immediately be applied to have the loan refinanced elsewhere or foreclosed immediately in order to minimize losses which would surely increase if it should continue on our books."

Perhaps this statement is a bit strong, for mere delinquency does not necessarily presage foreclosure. Many people will pay eventually, even though slowly. Furthermore, delinquency does not necessarily mean more than increased collection expenses. But the lender quoted did not want to take a chance. Half of his loans were obtained from refinancing. Had his firm followed exclusively a refinancing business, and had it restricted itself to seasoned, unblemished loans, it would have reduced its defaults in 1931 to about ⅙ of what actually prevailed. In no year prior to 1932 did delinquency of seasoned loans without prior default constitute a serious problem. After 1932, though no quantitative evidence is available, it is reported that a material increase in delinquency did occur among the older loans which had not formerly defaulted. But, of course, the conditions in that year were without parallel.

Rather than avoiding slow loans entirely, most firms will want to service all loans that come within reasonable limits of tolerance, but they will want to charge according to servicing costs and risks. Servicing costs are high for slow-pay cases. Risk of ultimate foreclosure is also heightened. Moreover, loss of interest earnings on delayed revenue is a factor. There must be extensive study of these problems before one can determine how much additional should be charged in such cases.

The policy of retaining slow loans but of charging a higher rate is probably a desirable one for building and loan associations. It would be unfortunate were all associations to announce the policy which was adopted by a certain Michigan association after it heard the results of this study. This association

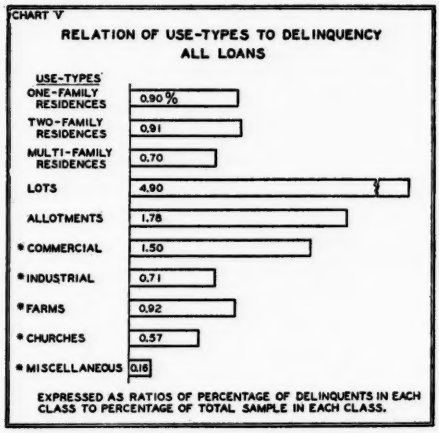
planned to force delinquent cases off its books as soon as they appeared. It should be realized that various legitimate reasons for irregular payment may exist and that, when these reasons are operative, probability of final fulfillment of the contract is not reduced.[5]

Factors Related to the Mortgaged Property

The practical significance of tendencies toward delinquency having been sketched, the next task is to observe particular factors associated with defaulted payments. This task can in no wise be completed. Not all the information gained in this study can be set forth within the limits of this article, and, moreover, a very broad field of inquiry still remains to be investigated.

In an attempt to determine some of the significant elements relating to a mortgaged property that might cause, or in any way be associated with, mortgage default, the following items were examined: use-type, location, age of the property, and size of loan.

"Use-type" means the classification of real property according to the use to which it is put. There is a wide variation from time to time and from community to community in the adjustment of the supply of particular use-types to the demand for them. This variation to some extent causes a variation in the ability or desire of mortgagors to maintain their payments. As Chart V reveals, during the period 1920-31 the Cleveland firm found loans on multi-family structures to be exceedingly favorable, and loans on vacant lots or subdivisions (called "allotments") to be very undesirable. The result of excess subdividing is obvious. The trend toward apartment dwellings during the period resulted in regular earnings of such properties and thus contributed to their favorable loan records.[6] The one- and two-family dwellings had slightly less than their proportionate share of delinquency. The cases of commercial, industrial, farm,



*These results are not acceptable because of the limited number of cases.

church, and miscellaneous loans were too few in number to warrant any observations concerning them.

The point to be emphasized in this connection is the necessity for a careful study of supply and demand conditions respecting each use-type in each community whenever a loan is being considered. In the past, this information has not been available or has not been sufficiently available to most lenders.

Not only is it important to determine the kind of property on which to make a loan, but equally important is the decision as to where the particular use-types should be located in order to warrant a loan. Money-lenders have long recognized the significance of location

[5] Some people, for example, receive income at irregular intervals. Yet their total income may be substantial.

[6] According to the Real Property Inventory of Cleveland, this favorable record did not continue during the depression. Presumably top-heavy financial structures caused many difficulties, though otherwise the projects may have been economically sound.

as a factor, and some have been quite rigid in adhering to certain standards, but heretofore they have been concerned more with the effect of location on appreciation or depreciation of property value than with its effect on mortgage default. Although the two problems are obviously related, since declining values will cause borrowers to lose heart and be less inclined to pay, while appreciating values encourage retention of the pledged property, nevertheless certain elements related to location seem to be definitely associated with delinquency. This does not mean that such association necessarily indicates causal relationship. The related variables may be derived from some mutual cause. But the particular element of location, even though not a cause, may signalize something more fundamental and thus serve as a guide to the lender.

The locational elements examined in this study were: competitive replacement of the use-type, qualitative and quantitative changes of population, family rental rates, and street car and motor bus facilities.

The subject of competitive replacement of prevailing use-types may well be presented in conjunction with that of qualitative and quantitative change of population. As common sense would show, when higher economic uses or groups come to dominate an area, delinquency is reduced; when lower economic uses or groups prevail, delinquency is increased. A mere increase or decrease of population, without changes in the economic classes or real estate use-types involved, is not, in itself, of any moment.

The literature of urban land economics and of human ecology is full of descriptions of the functional change from the center outward that occurs in any dynamic urban area. It is commonly known that the areas of greatest population density are driven and drawn outward by the impact of higher real estate use-types at the city center and by the relatively greater desirability of more distant residential areas. The concrete application of this general knowledge to the case in hand proved interesting.

The invasion of the residential district by industrial and high-class commercial use-types, which immediately surrounded the urban center of pyramided land values, was associated with a low degree of mortgage delinquency for the remaining residential properties. Of course, such an invasion reduced the population of the area by crowding it out, and, furthermore, it put a blight on the remaining residential locations. Nevertheless, the remaining residential properties gained in speculative value, and consequently even residential mortgages within the area were well maintained.

The case in which a declining population was associated either with the invasion of low-class commercial types, such as second-hand stores and pawn shops, in the close-in residential district, or merely with the deterioration of prevailing residential types, was marked by an increase of delinquency in residential loans. The earning power of the land in the district evidently had declined. However, one could probably find somewhat similar areas, more nearly of the tenement type, in which earning power was well maintained because of population stability or increase. No such cases were observed in this study.

Arranged outward from the metropolitan core, one finds areas of increasing population density. In every observed instance, the concentration was such as to permit the maintenance of a homo-

geneous land use and of a population reasonably homogeneous as to race, nationality, and economic status. In such areas of increasing and homogeneous population, delinquency was considerably below that normally expected for residence loans. Values and property incomes evidently were well maintained or even increased. However, had the increase of population per acre been accompanied by an influx of lower economic groups, the results might have been different. This would depend, of course, on whether property earnings per acre increased or decreased.

More distantly removed from the urban center, sometimes on the very fringes of urban use, are various sections in which population density is low but in which it is increasing. Residential delinquency proved reasonably light wherever the highest economic classes were locating in such an area. In other cases, considerable variation existed. The whole complex of elements —income classes, subdivision costs, assessments, taxation, equities of owners, etc.—would require study before subcategories with uniform experience could be isolated.

Some tendency was noted for delinquency to be high in districts of low family rental rates, and vice versa. However, a wide variation obtained in individual cases, and consequently family rentals did not prove to be a significant independent index. But, used in conjunction with the other elements of location, they are, of course, useful. The relation of rentals to the income of the occupants of the property would be of more significance. For this study, such information was not available.

No consistent relationship was found to exist between delinquency and the character of street car and motor bus facilities. Since a large share of the cases were one- and two-family residence loans, and since a large proportion of the people occupying such residences own automobiles, the public transportation system evidently did not materially influence the result. A study of accessibility to private motor traffic might prove more significant.

The age of the structure at the time the loan was made proved of no significance.

It is probable that there is a suitable size of loan for each use-type in each given locality, and for each economic class. But the size of the loan, in and of itself, proved to be of no significance. A study of the relationship of size to the other variables mentioned could not be undertaken.

Factors Related to the Borrower

In the past, lenders have paid more attention to the pledged property than to the borrower and, as a result, relatively little information concerning the latter has been obtainable. Recently, however, the requirements of the Federal Housing Administration have forced many lenders to focus greater attention on the ability and reliability of the borrower.

While property may serve as security for a loan, only the ability and willingness of the borrower to pay can prevent mortgage default. Not until after the borrower fails to meet his responsibility does the property offered as security become significant.

The only factor relating to the borrower for which this analysis has yielded evidence of any association with mortgage delinquency is the factor of marital status. Some evidence, though rather slight, showed that borrowers who had never been married had more than their proportionate share of delinquency, while married borrowers had approxi-

mately their proportionate share. Judging from the scanty data available, widows appeared more likely to default on their mortgage payments than did married couples, while widowers had less than their proportionate share of defaults.

If these observations should prove to be generally true, one would be curious as to why the differences exist. The discrepancy between single borrowers and widowers may offer a clue. Widowers will average much older than the unmarried, and some evidence is now being accumulated to indicate that men in their fifties or sixties are better credit risks than men in their twenties and thirties.[7] Age seems to give reliability, even though financial circumstances are the same. If this is true, an explanation is available for all the observations concerning the relation of marital status to mortgage default except in the case of widows. No doubt the lack of earning power of most widows is the reason why they cannot maintain their mortgages.

Had the firm studied maintained adequate information concerning its borrowers, such as age, income, occupation, credit rating, personal habits, budget, life insurance, race, nationality, the borrower's health, and that of family, more relationships might have been discovered.

Collection Policies of the Lender

It is of material importance that lenders recognize the following dilemma: In order to avoid the costs incident to defaulted payments, lenders must incur the costs of monthly collection. The issue must be faced. The cost accountant must determine which is the least expensive method in both the short and the long run. Unlike the National Housing Act,[8] which required monthly amortization, the Banking Act of 1935[9] makes monthly amortization permissive but does not require it. Lenders "must choose."

In examining the records of loans made by the Cleveland firm, it was repeatedly observed that, when defaulted loans were changed from the quarterly to the monthly payment basis, they became loans of good standing in a surprisingly short time. In fact, the delinquency of loans on a monthly payment basis was about ½ as great as the delinquency of loans on a quarterly basis despite the fact that the monthly group was composed almost entirely of previous quarterly defaulters. The evidence was overwhelming that monthly payments are more likely to be met than those made less frequently.

The income period and the habits of the average borrower are such as to make monthly payments easier than any other sort. The monthly payment idea is spreading across a tremendous number of obligation types. Not only have building and loan associations and all manner of instalment sellers exploited the idea, but also insurance companies in both the industrial and ordinary departments are learning to sell contracts payable on a monthly basis. Mortgage lenders will do well to weigh the matter carefully.

Conclusion

From the available information, evidence has been presented to indicate that, at least in so far as this Cleveland firm was concerned, a substantial proportion of mortgages on residential property were in default all during the prosperous twenties and even before the construction and subdivision situation had become unbalanced. Over

[7] From a source as yet unpublished.
[8] H. R. 9620, Title II, Sec. 203, (b)-(4).
[9] H. R. 7617, Title II, Sec. 208.

¾ of all loans that were 30 or more days in arrears at any time were initially so during the first three years of their life. Furthermore, there were more than nine chances out of ten that a defaulted borrower would be a repeater.

A number of factors related to the mortgaged property, to the borrower, and to the collection policies of the lender provide significant clues for forecasting delinquency.

Future studies of this character by business firms or by research scholars should explore various elements which were not available for this study, such as sales value, vacancies, specific rental rates, operating expense, income and other personal data relative to the borrower, laws relating to mortgages and foreclosure proceedings, zoning restrictions and housing standards, taxation, and assessments. Other problems for study, either not examined or inadequately developed in this project, which may prove to have an important bearing on mortgage default are: city growth patterns, monetary deflation, various business cycle series, optimum size of loan for a given level of income and social stratum, structural and design problems, the ratio between earnings of residential income properties and the "withholdal" or market price of such properties, accessibility to automobile traffic, and the service policies and interest charges of lenders.

Gradual accumulation of knowledge in the field of mortgage lending will serve lender and borrower alike and foster the sound development of mutual mortgage insurance as provided by the National Housing Act. Lending based on accurately defined experience can be done for a sure profit, and at the same time with a lowered cost to the average borrower. Finally, further knowledge of investment risks will more adequately conserve the capital of society.

II. Air Express Service in the United States

By WAYNE L. McMILLEN*

THE last issue of the *Journal* carried the first instalment of this study of air express in the United States.[18a] That part of the study included an analysis of air express traffic in terms of kind, number, weight, and revenue contribution of commodities shipped and a description of air traffic movement.

The next step is to compare air express rates with rates of other types of service which are or may be competitive, and then to consider the cost of air express service.

Rate Comparisons at Various Weights and Distances, with Time Differentials

1. Routes Selected and Rates to Be Compared

For this comparison of air express rates with rates of potentially competitive services, three representative routes were chosen, all of which are portions of a transcontinental trunk line. The Chicago to Cleveland route is a short one (319 miles), from Chicago to New York is one of medium length (724 miles), and the transcontinental route from New York to San Francisco a very long one (2,720 miles). It is felt that these three routes present a rather complete comparison of the rates for the various services. The services whose rates are here compared are those of air express, air mail, railway express, and parcel post. All these services are concerned with transportation of emergency shipments, and of highly valued cargo.

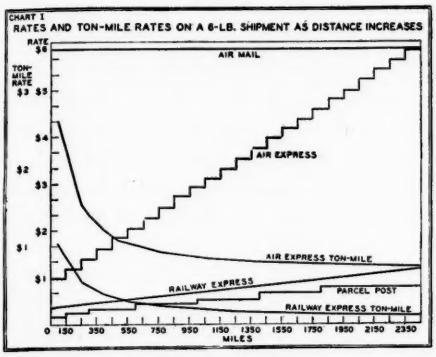
Some differences of opinion may exist as to the value of comparing the rates for these various services. Some feel that air express is not at all competing with these other services, that air traffic is made up of shipments which would not move at all were it not for air express. While this is very true of a portion of air shipments, it seems that the services do compete in hauling a large portion of the shipments. Hence such a comparison seems justified.

Air express rates vary almost directly with distance. Distances are divided into sections of 100 miles each, except for the first section which is 149 miles. The base rate is 4c per pound for each 100 miles, or 4c per pound for each of these sections. The base rate then is 4c per pound for the first 149 miles (measured as a straight line between the two points); 8c per pound from 150 to 250 miles; 12c per pound from 250 to 350 miles, etc. The maximum base rate is 96c per pound for all distances over 2,350 miles. For the lower weight shipments, "arbitraries" are added to the above basic rate. These arbitraries start at 92c for one pound up to 149 miles, then decline at the rate of 4c for each 100 miles until they entirely disappear at 2,350 miles. Thus a two-pound package destined 2,400 miles is carried at the base rate of 4c per pound per 100 miles with no arbitrary added. In the same way these arbitraries decline as weight increases. Starting at 92c for one pound the arbitrary decreases at the rate of 4c per pound until it disappears at 25 lbs. on a haul up to 149 miles. It disappears before a weight of 25 lbs. is reached on longer hauls, until for a distance of 2,400 miles the arbitrary disappears at 2 lbs.

* Former Fellow in Public Utility Economics, University of Illinois.

[18a] 11 *Journal of Land & Public Utility Economics* 266-277 (August, 1935).

On Chart I is shown the trend of rates for all four services for a 6-lb. package as distance increases. The average air express shipment is 6½ lbs. While for the 6-lb. package the air rate is only 2½ times the rail rate on very short hauls, yet on long hauls the air rate is five times the rail rate. For



heavier packages this difference is even more pronounced, the air rate ranging up to eight times that of railway express. There is no classification of rates for air express traffic. However, members of the General Air Express system are experimenting with some special commodity rates on newspapers shipped in rather large quantities. Shipping these papers by air at these special rates increases the price of a newspaper on the average, 2c.[19]

On the other hand, railway express rates are classified. All goods are in the first class except (1) food products and beverages which are given a second class rating, (2) certain items listed as third class, (3) valuables moving subject to money classification, (4) goods covered by commodity tariffs, and (5) goods of high value or large bulk compared with weight moving under a multiple of first class rates.[20]

Air mail rates are computed at a straight rate of six cents per ounce and do not vary with distance.

In computing parcel post rates the country is divided into zones according to distance from the shipping point. Beyond the local zone, zones are numbered from one to eight.[21]

2. *The Comparison*

Chicago-Cleveland Route. The Chicago-Cleveland route is 319 miles by air and 340.2 miles by rail. Comparison of air express, air mail, railway express, and parcel post rates at various weights is shown for this route in Table XIV and on Chart II.[22] As the figure shows, the rates for air mail shipments of merchandise are almost prohibitive above two pounds for such a short distance. There is no air parcel post system and classification under air mail means shipment in the same class as air mail letters. However, it can be readily seen that up to one pound the air mail service is less expensive than air express. It will be remembered that over ⅛ of air express shipments weigh less than one pound. However, air express ground service is speedier than that of air mail.

[19] Letter from C. P. Ryman, Express Traffic Manager, Eastern Air Lines, March, 1935.

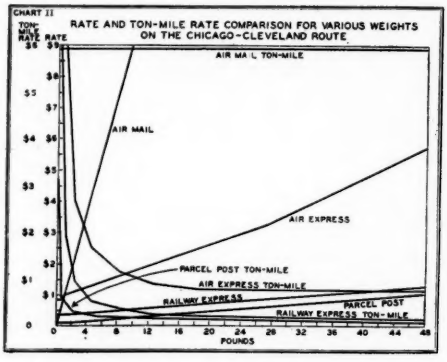
[20] In computing first and second class rates, the United States has been divided into blocks one degree square, numbered West to East. Each individual block is divided into 16 sub-blocks lettered A to Q. In the rate are three factors: an express terminal allowance, and a rail terminal allowance each of which is stationary, and a haulage factor which varies with distance. The haulage factor decreases for each block for a number of blocks and then remains constant. The blocks on the average are 69½ miles in length.

[21] The first and second zones include distances from 1 to 150 miles; the third from 151 to 300 miles; the fourth from 301 to 600 miles; the fifth from 601 to 1000 miles; the sixth from 1001 to 1400 miles; the seventh from 1401 to 1800 miles; and the eighth includes all distances over 1800 miles.

The rate includes a constant and a variable, which varies with distance. Both vary with an increase in weight. Parcel post rates increase with distance only at the beginning of each zone, and remain constant for that zone.

[22] Taken directly from the rate books of R.E.A. and the Post Office Department.

As soon as the air express package arrives at the port of destination it is delivered, while air mail waits for the postman to deliver it in the same manner as other first class mail is handled. The converse is true of collections.



In Table XIV (Part B) are shown the ton-mile rates for these services on shipments of various weights. In all except air mail the ton-mile rate for light weight shipments is very high and declines till it strikes a constant ton-mile charge. This is because of the arbitraries placed on the lighter shipments so they will pay their proportionate share of ground costs. Part C of Table XIV shows the ratio of the rail rate to the air express rate for various weights. As weight increases the relative spread between air and rail express rates increases. While light shipments are hauled by air at a rate of slightly over twice rail express rates, the heavier shipments must pay a rate over five times the rail rates.[23]

The Chicago-New York Route. Table XV presents for the Chicago-New York route the same data as were contained in Table XIV for the Chicago-Cleveland route. Chart III presents in graphic form the data from parts A and B of Table XV.

While the air express ton-mile rate on the longer Chicago-New York route is higher than on the Chicago-Cleveland trip for packages of over 25 lbs., yet the opposite is true of the rail express rate. On light shipments the air rate is about twice the rail rate but, as weight increases, the ratio increases until shipments of 100 lbs. must pay an air rate of 7½ times the rail rate. On this route rates on shipments over 16

[23] It was shown earlier in this discussion, as distance increases the spread between air and rail rates increases. Thus with *either* an increase in distance or an increase in weight, the air rate increases from about 2 to from 5 to 8 times rail rates.

TABLE XIV. RATE COMPARISON ON CHICAGO-CLEVELAND ROUTE FOR VARIOUS WEIGHTS*

Type of Service	Number of Pounds																		
	½	1	2	3	4	5	6	8	10	12	16	20	30	40	50	70	100	200	500
A. Rate																			
Air Express	$ .85	1.00	1.04	1.12	1.20	1.28	1.36	1.52	1.68	1.84	2.16	2.48	3.60	4.80	6.00	8.40	12.00	24.00	60.00
Air Mail																			
Railway Express	.48	.96	1.92	2.88	3.84	4.80	5.76	7.68	9.60	†									
(1st Class)	.37	.37	.39	.41	.43	.44	.46	.50	.54	.58	.65	.73	.92	1.11	1.30	1.68	2.25	4.50	11.25
Parcel Post	.09	.09	.11	.13	.15	.17	.19	.23	.27	.31	.39	.47	.67	.87	1.07	1.47†	------	------	------
B. Ton-Mile Rate																			
Air Express	10.64	6.27	3.27	2.34	1.88	1.60	1.42	1.19	1.05	.96	.85	.78	.75	.75	.75	.75	.75	.75	.75
Air Mail	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.02	------	------	------	------	------	------	------	------	------	------
Railway Express	4.35	2.17	1.15	.78	.63	.52	.45	.37	.32	.28	.24	.21	.18	.16	.15	.14	.13	.13	.13
Parcel Post	1.06	.53	.32	.25	.22	.20	.19	.17	.16	.15	.14	.14	.13	.13	.13	.12	------	------	------
C. Ratio of Air Express to Rail Express Rates	2.3	2.6	2.7	2.7	2.8	2.9	2.9	3.0	3.1	3.2	3.3	3.4	3.9	4.3	4.6	5.0	5.3	5.3	5.3

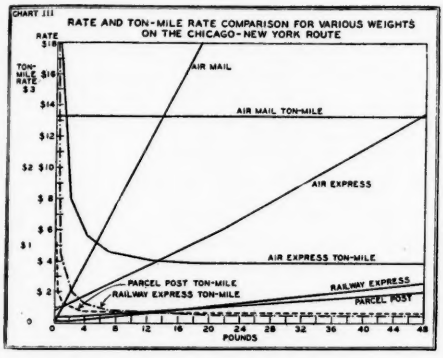
* Source: Tariff schedules of the various services.
† On short distances the air mail rate is so high for heavier shipments that there is little use for comparison. Parcel post accepts no shipments over 70 lbs.

TABLE XV. RATE COMPARISON ON CHICAGO-NEW YORK ROUTE FOR VARIOUS WEIGHTS*

Type of Service	Number of Pounds																	
	½	1	2	3	4	5	6	8	10	12	16	20	30	40	50	70	100	200	500
A Rate																			
Air Express	$ .85	1.00	1.20	1.44	1.68	1.92	2.16	2.64	2.88	3.60	4.56	5.60	8.40	11.20	14.00	19.60	28.00	56.00	140.00
Air Mail																			
Railway Express	.48	.96	1.92	2.88	3.84	4.80	5.76	7.68	8.64	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
(1st Class)	.38	.38	.42	.45	.49	.52	.56	.63	.66	.76	.90	1.04	1.38	1.73	2.07	2.76	3.80	7.60	19.00
Parcel Post	.11	.11	.17	.22	.27	.33	.38	.49	.54	.70	.91	1.12	1.65	2.18	2.71	3.77	-----	-----	-----
B. Ton-Mile Rate.																			
Air Express	4.68	2.76	1.66	1.32	1.16	1.06	.99	.91	.86	.83	.79	.77	.77	.77	.77	.77	.77	.77	.77
Air Mail	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	2.65	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Railway Express	1.65	.83	.46	.33	.26	.23	.20	.17	.15	.14	.12	.11	.10	.09	.09	.09	.08	.08	.08
Parcel Post	.48	.24	.19	.16	.15	.14	.14	.13	.13	.13	.12	.12	.12	.12	.12	.12	-----	-----	-----
C. Ratio of Air to Rail Express Rates	2.2	2.6	2.8	3.2	2.4	3.6	3.9	4.2	4.5	4.7	4.9	5.4	6.1	6.5	6.8	7.1	7.4	7.4	7.4

*Sources: Tariff schedules of the various services.

lbs. in weight are lower by railway express than by parcel post. This is not true of very long hauls or rather short ones but is true of the medium and relatively long hauls.



New York-San Francisco Route. Table XVI presents data for the New York-San Francisco route similar to those in Table XV. Chart IV shows the same data in graphic form.

On the Chicago-San Francisco route the air mail rate is not so much higher than that of air express as was true on the shorter routes. On the transcontinental route from Atlantic to Pacific it is interesting to note that for shipments of 2 lbs. or more the air express and air mail rates are exactly the same. While rail express becomes less expensive than parcel post with weights 30 lbs. or more from San Francisco to Chicago, this is not true on the transcontinental route. For both the latter routes air rates on very light shipments are less than twice rail rates and increase gradually with the weight until on the former route the air rate is eight times the mail rate and on the latter is 7½ times railway rates. The ratio of air to rail express rate is less for all weights on the longer of these two routes because, while the rail rate increases gradually with distance, the air rate remains constant above 2,350 miles. This tends to reduce the ratio between them on the 2,700-mile route.

Noticeable, too, is the fact that on the longer hauls, as the ton-mile rate decreases with weight, the weight at which this rate becomes constant is far less than on shorter routes. For instance, on the Cleveland-Chicago route the ton-mile air express rate becomes constant at 75c when a weight of 30 lbs. is reached; on the Chicago-New York trip the constant rate of 77c is reached at 20 lbs.; and on the 2,700 mile trip the constant rate of 71c is reached at 2 lbs. The ton-mile rate on this latter route is less than that on the shorter Chicago-San Francisco trip

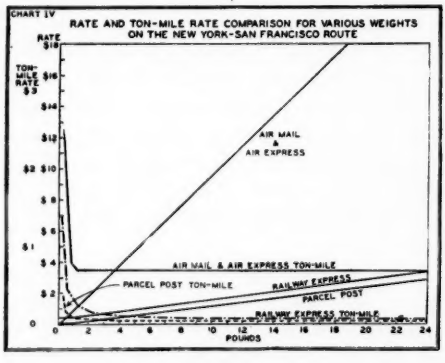
TABLE XVI. RATE COMPARISON ON THE NEW YORK-SAN FRANCISCO ROUTE*

Type of Service	Number of Pounds																		
	½	1	2	3	4	5	6	8	10	12	16	20	30	40	50	70	100	200	500
A. Rate																			
Air Express	$ .85	1.00	1.92	2.88	3.84	4.80	5.76	7.68	9.60	11.52	15.36	19.20	28.80	38.40	48.00	67.20	96.00	192.00	480.00
Air Mail																			
Rail Express;	.48	.96	1.92	2.88	3.84	4.80	5.76	7.68	9.60	11.52	15.36	19.20	28.80	38.40	48.00	67.20	96.00	192.00	480.00
(1st Class)	.47	.47	.60	.72	.85	.97	1.10	1.35	1.60	1.85	2.35	2.85	4.10	5.35	6.60	9.10	12.85	25.70	64.25
Parcel Post	.14	.15	.26	.37	.48	.59	.70	.92	1.14	1.36	1.80	2.24	3.34	4.44	5.54	1.74			
B. Ton-Mile Rate																			
Air Express	1.25	.73	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71
Air Mail	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71	.71
Rail Express	.59	.29	.19	.15	.13	.12	.11	.11	10.	.10	10.	.10	.08	.08	.08	.08	.08	.08	.08
Parcel Post	.19	.09	.08	.08	.08	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	------	------	------
C. Ratio of Air to Rail Express Rate	1.8	2.1	3.2	4.0	4.5	5.0	5.2	5.7	6.1	6.2	6.6	6.7	7.0	7.2	7.3	7.4	7.5	7.5	7.5

* Source: Tariff schedules of the various services.

because rates on air express do not increase with distances above 2,350 miles.

The ton-mile rate on air mail is constant at any weight. That of railway express becomes constant at much heavier weights than is the case with air express, and at somewhat heavier weights than that of the parcel post system.



Time Differentials

About the only important disadvantage in the use of air express is its high cost. It was pointed out that air express rates range from two to eight times railway express rates. To offset this disadvantage the air line offers much greater speed.

Table XVII presents a comparison between air and rail time on the routes discussed here. Only the actual running time is considered in the first two columns. Additional time has been added for pick-up and delivery, and for the trip to and from the airport or the railway station in the next two columns.

The time allowed for pick-up and delivery and to and from the station is an arbitrary amount. Time of pick-up and delivery is based on an estimate[24] of ½ hour for pick-up and ½ hour for delivery for air express and two hours for each in the case of railway express. These estimates apply, also, only to general business districts of metropolitan areas. To these estimates are added a one-hour allowance for transportation to and from the airport or railway station. This allowance is not high enough in some cities and is too high in others.

On the route from Chicago to San Francisco the air rate on medium and heavy shipments is nearly 8 times that of rail while the rail time is five times the air time.[25] Clearly, about the only shipments which will be made are those where the shipper must sacrifice almost every other requirement of transportation to that of speed. On the shorter routes the advantage of air express is not so great. While on the two longer routes here considered, rail time is more

[24] J. S. Gorby, A.E.R., March 11, 1935.

[25] Table XVII, *infra*.

TABLE XVII. COMPARISON OF AIR AND RAIL TIME ON THE FOUR REPRESENTATIVE ROUTES* (IN HOURS)

Route	Rail Time†	Air Time	Rail Time with Pick-up and Delivery Time Added	Air Time with Pick-up and Delivery Time Added	Differential	Ratio of Rail Time to Air Time
Chicago-Cleveland.....	7¼	2½	12½	4½	8	2.8
New York-Chicago.....	17¾	5	23¾	7	16¾	3.4
Chicago-San Francisco.....	84¼	15	89¼	17	72¼	5.2
New York-San Francisco...	107¾	19	112¾	21	91¾	5.3

*The table assumes that shipment is posted at latest possible moment to catch the plane or train.
†J. S. Gorby, R.E.A. Letter, March, 1935.

than five times air time, on the shorter routes it is about three times air time. Even this latter advantage is not as great as it may seem. As most air express requires no faster service than overnight delivery, then the relative importance of air express decreases with the shorter distances.

Limitations Which Present Rates Impose on Air Express

As was mentioned above, air express will seldom be used except where time is a many times more important consideration than cost of transportation. But, in the movement of most merchandise, cost is nearly always by far the most important consideration.[26]

Unlike any other mode of transporting merchandise, there is no range of weight or distance where air express is cheaper than any other agency. This is not true of railway express as freight rates are based on shipments of 100 lbs. or more; the freight rate for a rather light shipment is often higher than the much faster carriage by rail express. This is often true of shipments up to 50 lbs., while for weights up to 25 lbs. parcel post is likely to be cheaper than railway express, depending on the distance.[27] Each agency except air express has a range of weight and distance where its cost is less than other competitive agencies. For this reason air express with its present rates can never appeal as a means of saving transportation cost but only as a means of saving time and perhaps thus indirectly saving money.

Present air rates impose two limitations on the service. The service is limited to (a) a very few kinds of articles, and (b) certain unusual conditions under which other commodities are shipped. In other words, because of the very high rates, only seven items comprise over ¾ the volume of traffic, and the other 350 or more items which comprise the other ¼ are, except for a few exceptions, shipped only because of unusual conditions, generally emergencies, where cost of transportation is of little importance in comparison with the speed of air express. This does not mean that air express traffic cannot increase with the present rates. In fact, it is increasing rapidly. But before the volume can become very important to the airlines it seems that rates must be drastically reduced.

Costs of Air Express Service

1. Allocation of Air Transport Costs among Passenger, Mail, and Express Services

The cost of air transportation may be divided into (a) ground expenses and

[26] L. E. Muntwyler, Traffic Manager, Montgomery Ward & Co., Interview, February, 1935—"Cost is predominant in 99% of the cases."

[27] *Ibid.*

(b) flying expenses.[28] Ground expenses include the airport and airway expenses which the operator must pay, depreciation and maintenance of hangars and other buildings, tools and communication equipment, selling, administrative and other overhead expense, and salaries of all ground personnel, except employees working on the maintenance of flying equipment. Flying expenses include all those costs connected directly with flying the equipment, such as compensation of flying personnel,[29] fuel and oil, maintenance of flying equipment, flight insurance, etc. Unlike the railroad which must furnish its own roadbed, the airway may be compared to the highway or waterway, which anyone may use. In this study the term "air transportation cost" will be considered as that cost which the airline must bear in conducting its business, i. e., ground and flying costs, ignoring those airway and airport expenses which the operator does not pay.

A number of factors cause air transportation costs to vary. Naturally, improvements in the art of flying cause costs to change from time to time. *At any given time* costs will vary with the proficiency of the management, with the terrain, and with the type of weather conditions found in various parts of the country. As a rule, flight across mountainous country is more expensive than that across smooth and level land. Where the weather is warm and clear, costs are generally less. *Over any given route, unit* costs vary with the season, generally being considerably higher during winter months, mainly because of lighter traffic.

As previously mentioned, air transportation costs can be conveniently divided into (a) flying and (b) ground costs. "Flying" costs may be compared to what are known as "direct" or "variable" costs, while "ground" costs may be compared to "fixed" or "overhead" costs. An added schedule means very little added ground cost but increases flying cost. However, the factors which affect costs most on any given route at any given time are: (1) the type of equipment used, and (2) the number of schedules flown. The first item influences the *flying* costs per mile, the number of engines and their horsepower having a bearing on fuel and motor overhaul costs, while airplane maintenance and overhaul depend on size and type of construction of the planes. The original cost or investment in the plane affects depreciation and insurance costs. The speed of the plane has an influence on practically all flying costs, for most flying costs depend somewhat on the hours flown. Thus the more mileage covered per hour, the less the cost per mile. The ground expenses, or overhead, decrease per mile almost in proportion to the schedules operated.[30] Consequently, an added schedule increases total ground expenses very little.

Because these ground costs remain relatively constant regardless of the number of schedules flown, the business is one of decreasing costs. In the long run, of course, all costs tend to become variable costs, and in increasing the number of schedules there comes a time when ground facilities are overtaxed. However, this situation is in the distant future for airlines. One of their greatest problems at present lies in their unused capacities.

When these things are true of a busi-

[28] Comparable to "fixed" and "variable" costs.

[29] Such as the hourly and mileage rates. This, however, is not true of the base pay which is a minor part of the pilot's compensation.

[30] Alvin P. Adams, "Costs," *Aviation*, November, 1934, p. 358.

ness, that business generally bases its rate or price *not* on a strict allocation of costs, but on what the traffic will bear. Certainly the actual cost of transporting 200 lbs. of mail is much less than that of a passenger, yet surely no line would consider charging the passenger as much as it received for hauling an equal weight of air mail.[31] If it did, its life would be short. In the same way, most merchandise will not stand the rate which passengers pay. The value of cost allocation for rate-making purposes may thus well be questioned. At best it is arbitrary, and often of little help in determining rates. The important consideration is the building of a rate structure such that rates on the various services will bring in enough total revenue to more than cover total costs as a lower limit.

The Post Office Department suggested an allocation of air line costs among the various services on the basis either of space occupied or weight[32] of each type of cargo hauled. Inasmuch as, in air transport, weight rather than space occupied is almost always the limiting factor, it seems that the more scientific basis for allocation of costs of airlines is weight of the types of cargo hauled. But this does not mean that rates on the various services should be based on such allocation. In fact, later pages of this study will show that increased express traffic would be profitable to the airline, even though it can bear no such rate as that based on this allocation would dictate.

2. The Cost with Present Equipment: (a) When Offered in Conjunction with Passenger and Mail Service, and (b) with Exclusive Express Schedules

The greater part of air traffic in the United States is carried in bi-motored, low-winged monoplanes such as the Boeing 247 transport plane, the Douglas airliner, and the Lockheed Electra. For the most part they have replaced the single- and tri-motored planes of a few years ago. The cruising speed of these planes is between 170 and 200 miles per hour and they offer 18-hour service from New York to the Pacific Coast. From eight to fourteen passengers and several hundred pounds of air mail and express can be hauled on each trip.

It is difficult to generalize on the cost of air transport. Nevertheless, by taking the total amount of all operating expenses on all routes for all companies (including all types of aircraft) and dividing by the number of miles flown on all routes from May through July, 1934, one finds that the composite total operating cost of all lines was 50.7c per mile. But this figure is of little value in estimating the cost of air express, for the ships vary so widely in capacity that it is impossible from these data to estimate ton-mile or pound-mile costs. Inasmuch as on a single route one company may use various types of equipment, the per-mile operating cost of the route contributes little to the solution.

However, on Air Mail Route 1 from New York to San Francisco, the Boeing 247 plane was used exclusively. The same is true of Routes 11 and 12. On Route 1 the total operating expenses were about 54c per mile; on Route 11, 51.3c; and on Route 12, 49½c.[33] But in July, 1934 about 16.8% of all expenses were those attributable exclusively to

[31] Unlike other transport agencies, air transportation began for the purpose of carrying mail, with passenger traffic as a by-product.

[32] Brief before I. C. C., Air Mail Docket No. 1.

[33] U. S. Post Office Department—Exhibit No. 25 before I. C. C., Air Mail Docket No. 1. Winter unit costs are somewhat higher because of lighter traffic.

[34] U. A. L., Brief before I. C. C., Appendix A—Calculated from data. Thus a cost of about 45c per mile is obtained if exclusively passenger costs are eliminated.

the transportation of passengers.[34] The authorized payload capacity of this Boeing plane is 2,400 lbs. or 1.2 tons.[35] By stripping the plane for use as a cargo ship the payload is about 3,000 lbs.[36] Thus the ton-mile cost of transporting cargo in these modern Boeing planes on these routes is from 28½ to 30c. But this assumes regular loads of 100% capacity which, of course, cannot be expected. Assuming loads throughout the year of 50% capacity, the ton-mile cost is found to be from 57 to 60c or 2.8 to 3.0 c per pound per 100 miles. It will be remembered that the present basic air express rate is 70 to 80c per ton-mile or 4c per pound per 100 miles. Thus, present air express rates are more than sufficient to cover total operating costs, both flying and ground costs, over these routes in these modern Boeing planes.[37] But it was also pointed out that these rates are much too high if the express volume is to grow to any significant volume. Thus we may conclude that, *if all express continues to be carried in present aircraft and if it is to grow to any significant volume, it cannot be expected to pay its full share of all costs.*

The actual out-of-pocket cost of handling air express traffic under the present system, where it is hauled in passenger planes along with mail and passengers, is little indeed. Express is placed in the cargo compartments along with the mail. The ground costs of any trip go on regardless of whether the plane flies and the plane flies whether there is any express cargo or not. Thus in a sense, as far as express service is concerned, *all* costs are relatively fixed. If passenger and mail revenue covered operating expenses, practically every cent of express revenue collected would go toward increasing profits or decreasing losses.

A rate low enough to attract any large volume of traffic would necessitate, under present conditions, the flying of exclusive express schedules and when this is done the advantage of a "no-expense" express traffic is gone. Cost immediately goes from nearly nothing to at least the cost of operating the added schedule. One might argue that, in view of this fact, the proper policy for the airline would be to lower rates just enough to fill, but not more than fill, present unused capacity in present passenger ships. Were this done, it is very likely that the added volume at the lower rate would not offset the rate reduction and total revenues would not be any greater, if as great. In other words, it would possibly take more volume than the unused space in present passenger planes would allow, in order to offset the rate reduction.[38] In this case the airline would find it advantageous to carry less express at a higher rate. The question now presents itself as to the feasibility of adding exclusive express schedules.

Inasmuch as an added schedule would cause little or no increase in ground cost, it remains to be seen whether the traffic would bear that part of the expenses known as "flying costs." As the added schedule does not increase the ground costs, then any revenue *which is over and above flying costs* is the result of profitable traffic and may go to decrease the cost of carrying mail and

[35] United Air Lines, Brief before I. C. C., Air Mail Docket No. 1.

[36] Seats, blankets, toilet, stewardess, and one pilot weigh about 600 lbs. (Mr. Hal E. Nourse, Statistician, U. A. L., Interview, January, 1935.)

[37] Cost data are taken from operation in summer months. Costs in winter are somewhat higher. Year-round average costs of 60c per mile would not change the major conclusions of this study.

[38] During the past few months there has been little or no unused space on planes flying the major routes.

passengers. On air mail Route 1 flying costs were about 39% of the *total* costs in July, 1934.[39] Applying this ratio to the above costs, the *flying* costs are from 22 to 24c per ton-mile or 1.1 to 1.2c per pound per 100 miles, allowing for 50% capacity loads. This would permit reduction of rates to less than ½ what they are at present and at the same time flying costs would be covered. In a later instalment the question as to whether such a rate reduction would attract sufficient volume of traffic to be profitable to the airline will be discussed.

It is felt that *ton-mile* costs of operating the bi-motored Boeing[40] are representative of all bi-motored monoplane liners in which most of the present traffic moves.

The question may now be considered as to whether exclusive express schedules using modern equipment at costs shown above, obsolete passenger equipment, or specially designed freight planes are most economical.

3. Costs When Using Obsolete Passenger Equipment for Exclusive Express (or Mail and Express) Schedules

For years airline officials have considered the possibility of flying exclusive express schedules between major centers, using equipment which, because of technological advancements in the science of flying, has become obsolete for transporting passengers. However, only one attempt at establishing such a service has been made,[41] and that failed because of lack of sufficient available traffic at the rates offered.

The idea of air freighters appeals to the imagination of those interested in aviation but many practical obstacles must be overcome before such service is profitable. One of the most difficult of these problems is the reduction of costs to a point where a rate can be offered to shippers which will attract sufficient traffic. Another problem lies in educating people to use this new and quite different service once it is established at a sufficiently low rate.

Much discussion has occurred as to whether it is more economical to use this obsolete passenger equipment for this freight service or to buy new equipment specially designed for cargo transportation. Since depreciation of aircraft is a rather large item in air transport expenses and since this obsolete equipment is already completely depreciated on the books of the airlines, it would seem on first consideration that use of this obsolete equipment would be more economical.

Inasmuch as an added schedule causes little or no increase in ground costs, the rate on air express shipments need be just high enough to cover flying costs, and inasmuch as the equipment here considered is obsolete there need be no charges for depreciation. If use of obsolete passenger planes for express is possible, a means is provided for utilizing this equipment which is otherwise useless.

There are various types of obsolete aircraft, practically all either single- or tri-motored. Of course, costs per mile vary with utilization of equipment but below in Table XVIII are shown the estimated *flying* costs (exclusive of depreciation) of six types of obsolete planes when rather well utilized, along with their approximate useful payloads.

[39] U. A. L., Brief before I. C. C., Air Mail Docket 1, Appendix A.

[40] The costs vary from time to time and from route to route depending on conditions. Flying costs of the Douglas Transport Plane, stripped for express hauling and with one pilot, are about 30 to 31c per ton-mile (or 1.5c per pound per 100 miles), assuming 50% loads.

[41] That of TWA from New York to Kansas City in 1932.

TABLE XVIII. ESTIMATED FLYING COSTS, EXCLUSIVE OF DEPRECIATION, OF VARIOUS TYPES OF OBSOLETE AIRCRAFT

Type of Aircraft	Useful Payload (Lbs.)	Per-Mile Flying Cost	Ton-Mile Cost at 100% Capacity Loads	Ton-Mile Cost at 50% Capacity Loads	Cents per Pound per 100 Miles at 50% Capacity Loads
Pilgrim Single-Motor*	3,000	$0.203	$0.203	$0.406	2.03c
Boeing Single-Motor†	1,400	0.170	0.243	0.486	2.40c
Stinson "U" Tri-motor*	1,700	0.234	0.275	0.550	2.70c
Boeing Tri-Motor†	4,050	0.290	0.143	0.286	1.40c
Stinson "T" Tri-Motor*	1,500	0.234	0.312	0.624	3.10c
Ford Tri-Motor†	3,000	0.270	0.180	0.360	1.80c

*H. K. Rulison, Assistant Treasurer, American Airlines, Letter, March, 1935.
†Hal E. Nourse, Statistician, United Air Lines, Letter, March, 1935.

Assuming an average load of 50% of capacity, the ton-mile costs range from 28½c for the Boeing tri-motor to 62½c for the Stinson "T." A rate level which, on the average, did not result in revenues of at least 30c per ton-mile or 1.5c per pound per 100 miles would surely be disastrous, even with the most efficient of this obsolete equipment. In some cases the rate would have to be twice as high. Thus, use of obsolete equipment with no depreciation charge is more costly than use of modern equipment *with* depreciation charges. Even if the airlines were to start an exclusive express service with obsolete passenger planes in the near future, this equipment would, of course, wear out, and would have to be replaced either by the planes used now for passenger service or by specially designed cargo aircraft.

4. Costs When Using Specially Designed Cargo Equipment for Exclusive Express (or Mail and Express) Schedules

The only specially designed cargo ship that flies at a cost comparable with the obsolete passenger planes discussed above is the Fairchild XC-31, built by the Fairchild Aviation Corporation for the United States army.[42]

The claimed cost of flying this plane is considerably less than others of similar dimensions and performance. Table XIX gives per-mile flying costs and ton-mile flying costs for this ship, as stated by the manufacturer, assuming that it is operated by an experienced transport company over the route from Chicago to New York with two round trip schedules per day. The cost per pound per 100 miles averages .86 cents for this plane.

[42] W. H. Scwebel, Vice-President, Fairchild Aircraft Corporation, Letter, March 26, 1935. The plane carries a 4,500-lb. payload with a 700 h. p. engine and cruises at 130 miles per hour. The plane, engine, and propeller complete costs $40,000. Top speed for this plane is about 160 miles per hour. The cargo space is 15 ft. by 6 in. (wide) by 6 ft. 6 in. (high), allowing a cargo space of 775 cubic feet. The door is amply large, being 5 ft. 6 in. by 6 ft. The propeller is a three-blade, Hamilton, controllable-pitch type.

Under the item "flight crew" is included a pilot paid on a basis of a flat $5.00 per hour of flying. The services of the co-pilot and stewardess are done away with. The pilot would not need as high rating for cargo as for passenger transport. This $5 pay is less than that of passenger transport pilots but is considerably higher than the wages of a co-pilot. Gasoline is figured at the rate of 12c per gallon and oil at 38c per gallon.

Depreciation charges on the engine are on a 3,000-hour basis and that of the plane is on a 4-year basis. "Insurance" expense includes items for cargo liability, crash, fire, compensation (for crew), and public liability and property damage. Communication costs stated allow for two-way radio.

(All data on the Fairchild plane taken as represented by the Fairchild Company. No other cost or performance data are available on this ship other than those given out by the Company.)

TABLE XIX. PER-MILE FLYING COSTS OF THE FAIRCHILD FREIGHT PLANE*

Costs	Per-Mile Costs (Cents)	Ton-Mile Costs at 100% Capacity Loads (Cents)	Ton-Mile Costs at 50% Capacity Loads (Cents)
Flight crew	3.85	1.71	3.42
Fuel	4.40	1.96	3.92
Maintenance and overhaul	3.70	1.64	3.28
Aircraft depreciation	4.36	1.94	3.88
Insurance	2.07	.92	1.84
Communications	.47	.21	.42
Miscellaneous	.50	.22	.44
Total Flying Costs	19.35	8.60	17.2

*W. H. Scwebel, Vice-President Fairchild Aircraft Corporation, Letter, March 26, 1935.

Comparing costs on the Fairchild with those of the obsolete planes discussed in the section above, we find that, while the Fairchild plane may be flown at a per-mile cost not far from the single-motored obsolete planes, yet its payload capacity is much greater, thus resulting in a much lower ton-mile cost.[43] The Boeing tri-motor seems to be the most efficient of the obsolete planes for express purposes, yet the ton-mile cost of flying this plane with 50% loads is 28½c on the average while that of the specially designed Fairchild plane operates at a cost of only 17c when averaging 50% loads. While the cost per pound per 100 miles for the Boeing plane is 1.4c, that of the Fairchild plane is .86c. It will be remembered that the present basic rate is 4c per pound per 100 miles plus arbitraries for the lighter shipments. The cost of flying the Fairchild plane would allow for a reduction to about ¼ present rates.

After comparison of the costs of the two types of equipment it is evident that the Fairchild plane appears more economical for exclusive express schedules than are present modern passenger planes or obsolete passenger planes. It seems, then, that use of obsolete equipment may be justified *only* when experimenting with these exclusive schedules in an effort to find out whether they would be profitable enough to justify the purchase of specially designed equipment. The airline in this case should expect a loss during this experimental period.

It is not unlikely that, if these schedules were successful, from one to two cents per plane-mile would be added to the ground costs to allow for a few new employees devoting their time solely to air express. This would be true regardless of which equipment was used.

5. Costs When Carried along with Passengers and Mail in Possible Future Passenger Equipment

There remains another possibility in the future handling of a greater volume of traffic by air express. It is possible that the future passenger planes will be much larger than those in use at present, and that these planes will have much larger cargo space. Besides accommodating from 30 to 50 passengers, it is possible that there will be capacity enough for nearly as much air express and mail as the entire payload capacity of our present planes will accommodate.

That the trend is toward these larger planes is indicated by the plans for the future of some of the larger domestic airline companies, and by the planes being introduced into service by the Pan American Airways, which carries on a foreign service under the American flag.[44] It seems likely that these larger

[43] See Table XVIII.

[44] The new Martin Transport stripped for carrying express can carry from 12,000 to 15,000 lbs. of express at 180 m. p. h. over 4,000 miles without stopping for fuel. It is interesting to note that the average express load at present between New York and Chicago, where express traffic is heaviest, is far below 200 lbs. This new ship can carry a ton of mail and express, plus 50 passengers.

planes will have a considerably lower ton-mile cost of flying cargo than our present ones. At the same time it seems possible that, with schedules anywhere nearly as frequent as those at present, the necessity of flying exclusive air express schedules will be eliminated for many years to come.

If these predictions are true, then rates may be lowered to attract a large volume without increasing ton-mile costs to any great extent. In this case the method of estimating the cost of air express service would be similar to that at present, with present equipment and under present conditions. Again, express traffic would be very near to a "no expense" traffic and nearly all revenue would go to increasing profits, decreasing loss, or to making possible lower mail and passenger rates.

Perhaps *some* of the expense of operating a larger plane should be allotted to air express, and undoubtedly a much increased express traffic would necessitate a small increase in ground handling expenses. Only to this extent would the extra express traffic cause any actual extra cost to the airline.

Provided increase in passenger and mail traffic justifies these larger planes, this latter method of handling air express traffic seems by far the most economical. Next in order come the specially designed freight planes used for exclusive freight schedules, and then modern planes stripped for use as freight planes on exclusive freight schedules. Contrary to popular opinion, the airline cannot afford to use obsolete passenger equipment for air express service except for purely experimental purposes.[45]

Another important item of cost in handling air express business is that of pick-up, delivery, bookkeeping, and other overhead costs. About 40% of the charge for the average express shipment goes to pay these latter costs. In other words, while the average charge per shipment was $3.20, these costs amounted to about $1.25 per shipment.[46] However, this cost was covered in large part by the arbitraries added to the basic rate. It is certain that with a large increase in express traffic the unit cost of handling can be very greatly reduced.

The next and last instalment will deal with the demand for air express service and will set forth certain proposals as to what policies should be followed if the business is to develop its full potentialities. In discussing the demand an effort will be made to discover whether or not rates based on the costs discussed in this instalment will attract sufficient volume of traffic to develop the service to the desired extent.

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[45] Ton-mile Cost Attributable to Express Traffic:

1. When express is hauled in *modern* or *future* planes along with mail and passengers.....	Insignificant (2 to 5c)
2. When using Fairchild Freighter for exclusive express schedules...	17.2c
3. Using modern passenger equipment stripped for express.....	22 to 24c
4. Using obsolete passenger equipment stripped for express.....	28 to 62c

[46] Derived from a study of the records of Railway Express Agency, General Air Express, and of the various airlines.

II. The French Attack on the Housing Problem

By WELLS BENNETT*

THE first instalment of this article which appeared in the August issue of the *Journal* [27a] summarized the housing conditions in post-war France, traced the legislative background of present activity, and described the city-planning, architectural, and management features of the various projects now in progress. It remains to examine and analyze the French accomplishment in terms of accomodations provided, costs, and rents.

Economic Evaluation
1. Accommodations Provided

Results from a given housing program may be in part measured by an inventory of the physical facilities provided. Viewed thus, the dwellings in the Department of the Seine are adequate as units, the various projects are significant as expressing public interest in social betterment, and the technical skill involved in creating these great complexes has been of a high order. Fundamentally, however, a housing program must be judged by its general economic and social adequacy to the problem. In this respect the accomplishment of the Department of the Seine should be taken as part of a national activity.

As has been said, French housing organizations set up by legislation and obtaining aid from public funds are several in form. Some are of long standing under the earlier laws; others like the Office Public have come to the front under the Law Loucheur and the Law Bonnevay. Results in terms of housing facilities provided vary greatly among these types of housing organizations as well as among the individual offices of any type. France has over 1,800 official local housing organizations and opponents of the present program vigorously criticize the chartering of so many local units, charging that there has been no demonstrated need for this multiplicity of establishments and that in many cases no tangible results have been shown. The existence of a certain number of idle offices is admitted as inevitable in the official reports and the allocation of funds (Table I) would indicate that many of the cooperative and limited-dividend societies must have shown little activity. In contrast, the record of the societies of Credit Immobilier is highly creditable. Set up under the Law Ribot of 1908 there has been a long period of activity with these first mortgage loans for the encouragement of the small home owner. Three hundred and four branch societies, 250 of which have been notably active, have loaned over $190,000,000, an average of better than $600,000 apiece, and it must be remembered that most of this amount has gone for small individual houses in which the owner is investing his own savings to the extent of 20% of the cost of the property. Since the money is advanced through local offices which do no building themselves, it is natural that vested property owners and conservative building interests should point to this as the ideal form of housing aid.

In the present program the activity of the public offices or local authorities, communal and departmental, has been

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[27a] 11 *Journal of Land and Public Utility Economics* 278-289 (August, 1935).

the most important. To January, 1933 the 306 offices had received in public funds a sum ($135,000,000) second only to that granted the home loan societies, and nearly all appropriated in the last five years, while the home loan act had been in effect 20 years when the Law Loucheur was passed. The communal

TABLE I. OFFICIAL ORGANIZATIONS AND AMOUNT OF STATE LOANS MADE TO JANUARY, 1933*

Description	Number of Offices	Amount of Loans Made
Public offices for cheap housing	306	$134,892,000
Incorporated housing societies	653	43,904,000
Cooperative housing societies	547	25,008,000
Cities	†	4,624,000
Housing foundations	†	2,580,000
Dispensaries and sanitaria	†	2,280,000
Home loan societies	304	191,168,000
Mutual societies for mortgage loans	18	6,560,000
Regional offices for farm credit	†	474,000‡
Total		$411,490,000

* An official report quoted in 49 *La Construction Moderne* 11 (January 28, 1934). By December 31, 1933 the total had increased to $415,435,948. Additional subsidies to encourage large families bring the grand total to over $461,000,000. *Rapport*, Conseil Superieur, 1933, p. 743.
† Number not given.
‡ Amount for 1933 only.

or township organization is the most common type of public office with 239 branches, followed by the departmental form with 63 offices.[28] These housing authorities build directly, employing architects and letting contracts. They manage their own properties and, in some cases, those built and owned by others. As is to be expected, the programs of the City of Paris and the Department of the Seine far surpass any others of any type.[29] The showing of the metropolitan region of Lyon comes second with about 5,000 dwellings, the equivalent of the garden city of Plessis-Robinson.[30] The Strasbourg region follows with approximately 3,000 dwellings built. At the close of 1932 the office for the Department of the Seine was managing 7,500 dwellings and building more than 10,000 in addition.

It will be recalled that the Law Loucheur contemplated the erection of 200,000 low-rent dwellings and 60,000 of the medium-rent type, a program which the Law Bonnevay amended to permit the partial substitution of a third category, the "improved" low-rent type. Of these totals, 18,000 low-cost dwellings and 20,000 of the medium-rent type were assigned to the City of Paris. The later municipally financed program of 20,000 units is a separate activity. To the Department of the Seine were assigned 18,000 low-cost houses and 5,000 medium-rent units.[31] With the construction projected for 1934 Paris would have 18,311 new dwellings, with relatively few of the medium-rent class (Table II). On the same date the Department of the Seine was expected to reach a total of 23,809 dwellings, somewhat more than the original allowance (Table III). The economic crisis, however, and difficulties

[28] *Rapport*, Conseil Superieur, 1932, p. 16. In addition to the two types of office public named above there is one intercommunal office, and three organized by city boroughs or arrondissements. In the Department of the Seine, supplementing the department office whose program has been discussed, are 14 communal offices. In accomplishment, Puteaux adjoining Suresnes stands much the highest of these with a total of 1,000 dwellings.

[29] In Paris there is going forward the special city-financed program of 20,000 dwellings, the political and financial manipulation of which has been attacked by the French building industry. See "Comite de Defense du Batiment" in 49 *La Construction Moderne* I-II and XIX-XXVI, and XXIII-XXX (July 15 and July 22, 1934). Limited dividend and cooperative groups have built over 3,000 dwellings in Paris and the surrounding Department. It is estimated that 15,000 families have acquired dwellings in this same territory under the home loan act.

[30] Lyon has in addition an important project of 1,487 dwellings in multi-story apartments. This new enterprise is backed by the city administration in collaboration with private capital. See 49 *La Construction Moderne* 728.

[31] Barde, *op. cit.*, p. 162.

with the national budget have considerably reduced the construction accomplished.

TABLE II. NUMBER OF DWELLING UNITS BUILT AND PLANNED AND TOTAL COSTS, CITY OF PARIS*

When Built	Number of Houses	Total Cost	Cost per Unit
To December 31, 1929	3,529	$5,395,103	$1,528.79
To December 31, 1930	4,525	7,207,263	1,592.76
To December 31, 1931	5,696	.....	.....
To December 31, 1932	7,695	.....	.....
Under construction 1932-33			
Low-rent	3,303	.....	.....
Improved low-rent	1,710	.....	.....
Planned for 1933-34			
Low-rent	1,344	.....	.....
Improved low-rent	3,649	.....	.....
Medium-rent	610	.....	.....

* The figures are taken from the reports of the Conseil Superieur for the years mentioned. Costs are not given after 1930.

National totals of dwellings built each year by all the public offices are not officially given but brief statements from 267 local authorities, included in the Superior Housing Council's report for 1932, indicate a total of nearly 72,000 dwellings. Making allowance for offices not reporting, the sum would probably not exceed 80,000. With home loan and all other societies coming under the Law Loucheur included, the spring of 1933 saw completed a total of 180,000 low-cost units out of the 200,000 planned. Of the moderate-rent type only 28,000 of the proposed 60,000 had been finished.[32] Since the program could not be completed within the original five-year limit, an extension of the Law Loucheur has been proposed and is still being debated.[33]

[32] Estimate reported by Saint-Vinebault, Guillemot, 48 *La Construction Moderne* XXIII (March 19, 1933).

[33] On July 29, 1934 the Parliament voted continuation of the Law Loucheur to December 31, 1935 but failed to provide adequate credits.

2. *Costs of the Program*

Some general figures as to the costs of the French program indicate the increasing importance of public housing in the national economy. From the various housing acts before the Law Loucheur the State had advanced up to the close of 1928 the sum of $34,500,000.[34] At the close of 1933 more than 11 billion francs, or $440,000,000, had been loaned (See Table I and notes). Nearly ½ this amount was granted to the home loan group of housing organizations and slightly more than ½ to constructing organizations consisting mainly of the public offices or local housing authorities. It now appears that the cost to the State from the completion of the 260,000 dwelling program of the Law Loucheur may in itself amount to

TABLE III. NUMBER OF DWELLING UNITS BUILT AND PLANNED AND TOTAL COSTS, DEPARTMENT OF THE SEINE*

When Built	Number of Houses	Total Cost	Cost per Unit
To December 31, 1929	2,486	$4,047,819	$1,628.64
To December 31, 1930	3,858	.....	.....
To December 31, 1931	5,054	10,682,291	2,113.63
To December 31, 1932	7,535	21,101,362	2,800.44
Under construction 1932-33			
Low-rent	7,166	8,748,099	1,220.77
Improved low-rent	2,775	9,930,453	3,578.54
Medium-rent	146	980,215	6,713.79
Planned for 1933-34			
Low-rent	3,238	.....	.....
Improved low-rent	2,949	.....	.....

* The figures given are quoted from the reports of the Conseil Superieur for the years mentioned. The report for 1933 gives the number of dwellings in use as 8,188, an increase of only 653 over the previous year. This small showing in comparison with the program proposed directly reflects the shrinkage in State funds allotted to housing. The report omits some of the costs.

[34] *Rapport*, Conseil Superieur, 1932, pp. 13-4.

$400,000,000.[35] This sum is mainly in the form of loans, presumably to be repaid to the treasury from the rents collected. There are, however, certain losses to be borne by the State. The loans, except $20,000,000 allotted to medium-rent units at 4% interest, are granted at from 2 to 2½% interest and since the State cannot borrow at that rate it must make up the difference. A loss to the State also arises as a result of outright grants and reductions of rents to war veterans and large families. This sum to 1932 is estimated to amount to over half a billion francs. The exemption of housing properties from certain taxes may also be considered a cost to the State. In 1933 such taxes remitted amounted to over $436,600 for all France and to nearly $33,000 for the Department of the Seine.[36]

When conservatives estimate that 3,000,000 houses in France need extensive repair or replacement,[37] the number of units proposed in the five-year program does not seem out of reason and, in a national budget of approximately 50 billion francs, the credits voted annually for housing do not appear excessive. Until the present depression, however, this item in the budget was increased each year under the Law Loucheur, a trend viewed with concern by conservative Frenchmen generally and by private building enterprise in particular.

Additional grounds for opposition arise in further contributions which the taxpayer must make to the cause of public housing. Beyond the burden carried by the State, the financing of the remaining capital costs, estimated at $80,000,000 for the 260,000 dwellings of the Law Loucheur, must be borne by the local communes or departments, funds to be raised by commercial loans and local taxation. These costs to the local community, moreover, may be greatly increased if building costs exceed the official schedules (Tables IV, V and VI), or if, because of economic depression or local conditions, a given project is slow in renting.[38] To obtain the maximum percentage of cost by State loans, the community must pledge its assets as security. The entire cost of public intervention in housing cannot now be determined but the already well taxed citizen fears that it will be too much.

Rents and Net Costs

In some provincial towns local authorities have limited their activities to furnishing cheap land for housing to be built on by the owner, and other offices have built and sold individual dwellings but, in general, the projects carried out under the provisions of the Law Loucheur have been planned and operated on a rental basis. Rents for the dwellings are set by an extremely complicated system. Minimum sizes, net costs, and basic rent scales are set forth in instructions from the Minister of Health (Tables IV, V and VI). In addition to adjustments on account of rent class and kind of dwelling, collective or individual, other factors include: local geographical situation; place of the dwelling in the building in cases of collective dwellings; number of families; and date of construction. As an example, a standard low-cost type, three-room, small kitchen, and toilet apart-

[35] Ferrand, Lucien, 101-2 *Journal des Economistes* 157-8 (February 15, 1932).

[36] *Rapport*, Conseil Superieur, 1933, pp. 755-6.

[37] Rey, *op. cit.*, p. 169.

[38] The high percentage of vacancies in such outlying projects in the Department of the Seine as Plessis-Robinson, Malabry, and Vanves is a cause of considerable concern. In the Department of the Oise a housing group at Noyon is reported as vacant for two years because the people prefer to live in hovels at little or no rent.

ment of 484.38 sq. ft. living area, located in the metropolitan region of Paris, has a maximum rent of 3⅓% of its cost, or $65.48 per year (Table IV and notes). Supplementary charges for common utilities raise this rent to $72.05. The allowable net cost for this apartment is given as $1,965 but this amount makes no allowance for land not occupied nor does it include the cost of the various services outside the house.[39] The French economist, M. Lucien Ferrand, estimates that the total net cost of this three-room apartment would be at least $2,200, on which the State would loan $1,980. He would charge against this dwelling annually:

Interest on the capital of $2,200 invested by the housing authority at 5%	$ 11.00
Amortization of the State loan of $1,980 at 2% interest, amortized in 40 years	72.38
Cost of State administration and control at 1% per $1,000	1.98
Maintenance	21.60
Total	$106.96

If, therefore, the rent paid is $72.05, there will be a deficit each year of

[39] Barde, *op. cit.*, pp. 22-23.

TABLE IV. LOW-COST DWELLINGS: OFFICIAL SCHEDULE OF TYPES, COSTS, AND RENTS*

Size and Description	Minimum Allowable Overall Area in Sq. Ft.†	Paris Region			The Provinces		
		Maximum Allowable Annual Base Rent‡		Maximum Allowable Net Cost	Maximum Allowable Annual Base Rent		Maximum Allowable Net Cost
		Group Dwelling	Single House		Group Dwelling	Single House	
I. 1 room with or without W. C.	161.46	$21.80	$26.16	$654.00	$15.44	$18.52	$ 463.20
II. 1 room and kitchenette with or without W. C.	269.10	38.20	45.84	1,146.00	26.20	31.44	786.00
III. Same as II with kitchen of 107 sq. ft.	.....	44.56	53.48	1,337.00	30.56	36.68	917.00
IV. 2 rooms kitchenette and W. C.	376.74	54.60	65.52	1,638.00	34.92	41.88	1,047.60
V. Same as IV with kitchen of 161 sq. ft.	.....	63.68	76.44	1,911.00	40.72	48.84	1,221.60
VI. 3 rooms kitchenette and W. C.	484.38	65.48	78.60	1,965.00	43.68	52.40	1,310.40
VII. Same as VI with kitchen of 193 sq. ft.	.....	76.40	91.68	2,292.48	50.96	61.12	1,528.80
VIII. 4 rooms kitchenette and W. C.	581.25	78.60	94.32	2,358.00	52.40	62.88	1,572.48
IX. Same as VIII with kitchen of 193 sq. ft.	.....	89.48	107.40	2,685.48	59.68	71.60	1,790.88
X. 5 rooms kitchenette and W. C.	678.13	91.68	110.04	2,751.00	61.12	73.36	1,834.56
XI. Same as X with kitchen of 193 sq. ft.	.....	102.60	123.12	3,078.48	68.40	82.08	2,052.96
XII. 6 rooms kitchenette and W. C.	775.00	104.80	125.76	3,144.00	69.88	83.84	2,096.64
XIII. Same as XII with kitchen of 193 sq. ft.	.....	155.68	138.84	3,471.48	77.16	92.60	2,315.04

* Tables IV, V, and VI are taken from the instructions of the Minister of Public Health, quoted in Barde, *op. cit.*, pp. 172-7. The value of the franc has been taken at four cents.

† In all three dwelling classes the minimum standard room is 96.88 sq. ft. in floor area. In the improved low-rent class, dwellings of more than three rooms must provide such additional rooms with 129 sq. ft. floor area each. In the moderate-rent class, the superficial area for a two-room and kitchen apartment is required to be at least 495.14 sq. ft. to be increased by 129 sq. ft. for each additional room. The area given to corridors and W. C. may not exceed 15% of the superficial area thus determined.

‡ The annual base rent is a percentage of the first cost, varying with the rent class, and ⅓ higher for individual houses than for apartments. The percentage is the same whether in the provinces or in the metropolitan region. The rate for low-cost apartments is 3⅓% of the first cost of the dwelling, and that for improved low-cost apartments 4⅓%. For medium-rent apartments the rate ranges from 5¾% to 6⅙% according to the rate of subsidy.

$34.91, or 32%. This deficit would have to be borne by the local community budget.

The scale of rents and allowable net costs must be interpreted in terms of the French wage scale. Before the War the average worker's annual income is given by Sellier as 2,400 francs, or about $480. At that time a three-room dwelling could be built in Paris for a little over $1,500 and at the prevailing rate of interest could be rented at approximately 4½% on the net cost, or $67.50 per year. Such a rent scale would amount to 14% of the worker's annual income, a rate regarded as rather high in France where the lower wage groups do not expect to pay as high a proportion of income for shelter as more northern countries have come to accept. The post-War income of the unskilled worker, although it increased to 12,000 francs, remained the same ($480.00) in terms of the gold dollar. Money rates, however, increased so greatly that capital had to have 10% on a higher net cost of $1,978 for the same three-room dwelling, or a rent of $197.80, taking the intolerable proportion of 41% of the worker's annual income. Under such conditions private capital could not build housing for the poor and public intervention was inevitable. The schedules set up under the Law Loucheur brought the rent rates down to 15% of the average lower incomes and, taking account of later increases in the wage scale, it may be said that for the worker rent charges are now approximately those of 1914.[40]

[40] From the report for France made by M. Sellier in 3 *Wohnen and Bauen* 224-225 (1931).

TABLE V. IMPROVED LOW-COST DWELLINGS: OFFICIAL SCHEDULE OF TYPES, COSTS, AND RENTS*

Size and Description	Minimum Allowable Overall Area in Sq. Ft.	Paris Region			The Provinces		
		Maximum Allowable Annual Base Rent		Maximum Allowable Net Cost	Maximum Allowable Annual Base Rent		Maximum Allowable Net Cost
		Group Dwelling	Single House		Group Dwelling	Single House	
I. 1 room with or without W. C.	290.62	$ 43.60	$ 52.32	$ 981.00	$ 30.88	$ 37.04	$ 694.80
II. Same as I with kitchenette	398.26	76.40	91.68	1,719.00	52.40	62.88	1,179.00
III. Same as I with kitchen of 107 sq. ft.	.....	89.12	106.96	2,005.48	61.12	73.36	1,375.48
IV. 2 rooms, kitchenette and W. C.	505.91	109.20	131.04	2,457.00	69.84	83.80	1,571.40
V. Same as IV with kitchen of 161 sq. ft.	.....	127.40	153.88	2,866.48	81.48	97.72	1,832.40
VI. 3 rooms, kitchenette and W. C.	613.54	131.00	157.20	2,947.48	87.36	104.80	1,965.60
VII. Same as VI with kitchen of 194 sq. ft.	.....	152.80	183.40	3,438.72	101.92	122.28	2,293.20
VIII. 4 rooms, kitchenette and W. C.	742.72	157.20	188.64	3,537.00	104.80	125.76	2,358.72
IX. Same as VIII with kitchen of 194 sq. ft.	.....	179.00	214.80	4,028.20	119.36	143.24	2,686.32
X. 5 rooms, kitchenette and W. C.	871.88	183.40	220.08	4,126.48	122.28	146.76	2,751.84
XI. Same as X with kitchen of 194 sq. ft.	.....	205.20	246.24	4,617.72	136.84	164.20	3,079.44
XII. 6 rooms, kitchenette and W. C.	1,001.05	209.60	251.52	4,716.00	139.76	167.72	3,144.96
XIII. Same as XII with kitchen of 194 sq. ft.	.....	231.40	277.68	5,207.20	154.32	185.20	3,472.56

* See footnotes to Table IV.

As to the housing authorities, the difficulties of balancing budgets have been aggravated by increasing costs of building. From the adjusted values of 1919, amounting to three times the pre-War costs, construction charges immediately began to mount. There was a slight decline during the depression of 1921-22 but by the end of 1926 building costs were double those of 1919. For over a year prices remained at this level, then, late in 1927, began to rise rapidly so that by the summer of 1930 costs for housing were triple those of 1919. From the beginning of the depression in 1930 prices had fallen, by the middle of 1933, almost to the 1926 level.[41]

[41] Sellier, Henri, *Realisations de l'Office Public d'Habitations du Department de la Seine* (Strasbourg: Edari, 1933), pp. 7-8.

TABLE VI. MODERATE-RENT DWELLINGS: OFFICIAL SCHEDULE OF TYPES, COSTS, AND RENTS*

Size and Description	State Subsidy	Paris Region			The Provinces		
		Maximum Allowable Annual Base Rent		Maximum Allowable Net Cost	Maximum Allowable Annual Base Rent		Maximum Allowable Net Cost
		Group Dwelling	Single House		Group Dwelling	Single House	
I. 1 room without kitchen	70%	$ 65.40	$ 78.48	$1,144.48	$ 46.32	$ 55.56	$ 810.60
	60%	69.76	83.68	.....	49.40	59.28	.....
	50%	74.12	88.92	.....	52.48	62.96	.....
	40%	78.48	94.16	.....	55.60	66.68	.....
II. 1 room with kitchen and W. C.	70%	114.60	137.52	2,005.48	78.60	94.32	1,375.48
	60%	122.24	146.68	.....	83.84	100.60	.....
	50%	129.88	155.84	.....	89.08	106.88	.....
	40%	137.52	165.00	.....	94.32	113.16	.....
III. 2 rooms with kitchen and W. C.	70%	163.80	196.56	2,866.48	104.76	125.68	1,833.28
	60%	174.72	209.64	.....	111.76	134.08	.....
	50%	185.64	222.76	.....	118.72	142.44	.....
	40%	196.56	235.84	.....	125.72	150.84	.....
IV. 3 rooms with kitchen and W. C.	70%	196.48	235.80	3,438.72	131.04	157.24	2,293.20
	60%	209.60	251.52	.....	139.76	167.72	.....
	50%	222.68	267.24	.....	148.52	178.20	.....
	40%	235.80	282.96	.....	157.24	188.68	.....
V. 4 rooms with kitchen and W. C.	70%	235.80	282.96	4,126.48	157.24	188.68	2,751.84
	60%	251.52	301.80	.....	167.72	201.24	.....
	50%	267.24	320.68	.....	178.20	213.84	.....
	40%	282.96	339.52	.....	188.68	226.40	.....
VI. 5 rooms with kitchen and W. C.	70%	275.08	330.12	4,814.24	183.44	220.12	3,210.48
	60%	293.44	352.12	.....	195.68	234.80	.....
	50%	311.76	374.12	.....	207.88	249.48	.....
	40%	330.12	396.12	.....	220.12	264.16	.....
VII. 6 rooms with kitchen and W. C.	70%	314.40	377.28	5,502.00	209.64	251.56	3,669.12
	60%	335.36	402.40	.....	233.64	268.36	.....
	50%	356.32	427.56	.....	239.60	285.12	.....
	40%	377.28	452.72	.....	251.56	301.88	.....

* See footnotes to Table IV.

While part of this general increase may be attributed to various economic trends of the time, the stimulus of government subsidy seems to have been largely responsible. Beginning with the rebuilding of the war-devastated areas, public intervention in housing was in the air and was made a substantial fact by the Law of 1928. The government report of 1930 states that many more houses would have been built but for the high costs of material following the passage of the Law Loucheur and charges that "too often the manufacturers of materials have absorbed the subventions of the Law Loucheur."[42] Since wages and white-collar salaries have not increased in any such proportion as the cost of building, rents could not be raised and housing authorities have faced the task of supplying an allotted number of new dwellings with little hope of balancing rising costs by increased income. The allowable supplementary rent charges previously discussed have not made good the difference and, if the dwellings are built to the standards carefully set up by law, deficits are hard to avoid. Efficient, compact planning has been necessary and the change from the garden-city character of the early projects to the later collective dwelling blocks was a response to this economic pressure. It might have been expected that the price decline of the 1930's would have improved building conditions but the same depression that eased construction costs brought a shrinkage of credits for loans that has stopped several projects already under way.[43]

[42] *Rapport*, Conseil Superieur, 1930, pp. 3-4.

[43] The legislation of July 29, 1934, followed by a decree of September 30, 1934, authorized housing authorities to procure loans from private capital, the State paying the difference of interest between 2%, the former lending rate for State funds, and a maximum of 6%. Housing organizations, however, are unable to get loans at 6% and thus very little work is going forward. See also note to Table III.

[44] Barde, *op. cit.*, p. 164.

Summary

For the improvement of housing conditions in France the State has advanced funds at interest rates below its borrowing rates, and has given partial tax exemption. In addition, it has given outright grants to favored groups, such as large families. Building costs have increased in relation to tenants' incomes and State aid, grudgingly given as times have grown harder, has proved to be insufficient. Local authorities have had difficulty in balancing their budgets and additional charges as well as security are asked for State loans borne by the local community. Finally, in practice the local government must shoulder any deficit in operation of properties.

Conservatives oppose the housing program under the Law Loucheur because it is a charge on the budget. Furthermore, they assert that, since rents are less than carrying charges, private enterprise is slowly being throttled in favor of a state building industry. As a matter of fact, the City of Paris and the Department of the Seine have given some encouragement to private initiative and limited-dividend groups by guaranteeing loans and subscribing to shares. At the end of 1931, $20,000,000 of loans had been guaranteed and $260,000 in shares had been subscribed.[44] Such projects, however, are under the handicap of having to compete with public office dwellings whose carrying charges and deficits are subsidized.

Politics is the field of both factions in the housing movement. While M. Sellier would no doubt prefer to devote his energies to the execution and administration of his great program, the housing reform group supported by the radical working class must keep the

issue alive at each session of Parliament or have funds already waning entirely cut off. The conservative and the capitalist, natural individualists, feel that they must fight the threatened movement toward direct grants and direct building by the State with its heavy taxation of capital and suppression of normal building channels. Each year the funds to be loaned for the housing program, whether for small home loans or public housing, have to be voted in the budget.

It is still too early to appraise the social success of this new housing, for a considerable proportion of the dwellings completed are only now ready for occupancy. At Gennevilliers and Suresnes the necessity of tactful, sympathetic management and some plan for social education were apparent from the beginning and have continued to prove essential as the settlements have grown. Difficulties have arisen with unsocial and over-radical groups, difficulties which housing authorities must apparently expect as a by-product of collective, subsidized housing. In general, however, tenants appear to be contented, and to appreciate their improved environment. How far the whole program is adequate to the need and to what extent the unskilled worker and lower middle class tenant will respond to the standards and responsibilities of these improved homes and changed neighborhoods can only be known after a seasoning period of operation.

The history of French housing reflects the social progress of a people rational in habit of thought, amenable to a planned life, yet individualistic and economically very conservative. On public questions the radical group is still held safely in check. Nationalism has probably been as activating a force in the housing problem as has radical pressure, for the care of war veterans, the encouragement of large families, and the improvement of health and of family life have led the French middle class to go the lengths of the present program. As yet, however, the place of housing in the national economy has not been settled and France can scarcely be said to have a housing policy. The Law Loucheur is an emergency measure and whether it is continued, is greatly modified, or is allowed to lapse, the legislature must now decide. When each year's appropriation has to be fought through Parliament to arrive at a compromise, it appears that public opinion is not yet wholly convinced on the principle, or else that the housing technique now being used is faulty.

The experience of France focussed in the region of Paris is another episode in the history of conscious housing effort. Through the medium of local and national characteristics it re-affirms the profound difficulties of the problem and is another indication that in modern civilization public concern with the reasonable housing of people is inevitable. The final definition of what forms such intervention should take to allow properly for all the social and economic implications awaits further experience and study.

Public Utility Legislation in the Depression: III. State Laws of 1935

By D. L. MARLETT AND WARREN H. MARPLE*

THE 1935 harvest of state laws regulating public utilities was very light. Only one state can be said to have made any outstanding change. In this respect, at least, the activity in the current legislative halls contrasts strongly with that of the past few years and raises the question of whether another wave of statutory reform is at last subsiding. Since 1930 many states have established their utility laws upon a firmer basis than ever before attained. Does the smaller volume of 1935 legislation indicate that all contemplated changes have been made? Has the public utility issue lost its popular appeal? Or are we merely having a breathing spell until the recently enacted state laws can be tested and the probable course of the federal activity be ascertained?

The reduced tempo of state activity is not, of course, synonymous with a slower change in the whole body of laws affecting public utilities. The Federal Government must now be reckoned with. The federal influence has made itself felt not only in the new holding company act but in the considerable body of state laws sponsored by the various alphabetical agencies to further their own particular projects. Principal among the latter are the power district, electric cooperatives, and rural electrification measures. This federal legislation and the federally inspired state public ownership acts will not be discussed here. We shall restrict ourselves to the rather homogeneous body of laws relating for the most part to state control of public service industries.

This much may be said of the 1935 state laws, that even though they did not maintain the forward pace set by the legislation enacted during the previous years they continued in the same direction. About the only reversal of previous trend was the restoration of staffs and number of commissioners which had previously been cut as economy measures. The 1935 legislation is made up largely of further enactments by the leading states designed to round out and modify laws passed in the last session or two. There has also been some spread of the more advanced type of legislation to states which have not hitherto enacted any substantial changes. Most obviously absent from the current picture are the statutes conferring upon the commissions the authority to make emergency rate reductions by short-cut methods. Perhaps this is a good omen of better times, for certainly the pressure for emergency rate procedures exerted from 1931 to 1934 was a symptom of general economic deflation.

The 1935 legislation will be discussed under the following heads: commission organization, assessment of costs on utilities, rate procedure, control over securities and dividends, control of holding companies, and joint regulation.

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For the first two articles of this series see "I. State Laws Extending and Strengthening Commission Jurisdiction," 11 *Journal of Land & Public Utility Economics* 173-186 (May, 1935) and "II. Reorganization and Financing of Commissions," *Ibid.* 290-301 (August, 1935).

Commission Organization[1]

Characteristic of the last few years has been the rather widespread revamping of state commissions and their personnel. Dissatisfaction with their previous performance led to a wholesale attempt to instill new life into regulatory bodies by expanding their authority and improving their personnel. Judging by the 1935 enactments this movement has practically stopped.

During 1935 Arkansas was the only state to make any substantial change in its commission organization, and for that matter in its jurisdiction. Last year this State culminated several years of change by organizing its Fact Finding Tribunal as an arm of the Corporation Commission.[2] Apparently satisfied with the steps taken in this direction the State has now gone the whole distance of creating a full-fledged commission of the strong type, although still within the framework of the Corporation Commission.[3]

The new commission is known as the Department of Public Utilities. Like the former Tribunal it has three members, but salaries are now $5,000 per year. One of the members must be a lawyer, but the requirement that the other two be an accountant and an engineer are now removed. The retention of the lawyer-member is connected with the delegation to him of a slightly novel combination of prosecuting and administrative functions. He must act as the Department's attorney even to the extent of defending its orders in the courts.[4] This combined function offers a contrast to the attempts made elsewhere to divorce the prosecuting from the so-called judicial functions.

At the same time that its membership was reconstituted the new Arkansas Department was given substantially larger funds (through assessments on the utilities) and its jurisdiction was extended to include the right to suspend proposed rates pending investigation, approval of security issues, control over contracts with affiliated interests, and approval of purchase and sale of utility assets. The Department is also authorized to make valuations and establish proper rates of depreciation. Each of these matters will be discussed under the appropriate sections below.

Few changes were made in the organization of other commissions. The Utah Public Service Commission, as the new body is called, is again composed of three full-time members, each of whom draws a $4200 salary.[5] For two years the commission had only one full-time member who was paid a reduced salary. Further evidence of the trend away from one-man commissions is seen in the refusal of Michigan and Nebraska to sanction such a change.

The Rhode Island Commission came through a major state departmental reorganization unscathed. It is now a Division of Public Utilities of the Department of Taxation and Regulation. No changes were made in its power or duties. The South Carolina Railroad Commission, which consists of three elected members, is henceforth to be known as the Public Service Commis-

[1] For a discussion of changes made form 1931 to 1934 see 11 *Journal of Land & Public Utility Economics* 290 (August, 1935).

[2] *Ibid.*

[3] Acts 1935, No. 324, p. §§ 2-4.

[4] "The attorney member of the Department shall represent and appear for the Department in all actions and proceedings in all courts involving any question under this Act. He shall, in addition to his duties as commissioner, perform such duties and services in connection with this Act and the enforcement thereof, as the Department may require. He shall also bring all actions to collect penalties, fees, taxes and costs, herein provided for or levied". (Acts 1935, No. 324, § 4 (c)).

[5] Laws 1935, c. 63.

sion as a result of the recent legislative ratification of a constitutional amendment.[6]

The West Virginia commission, like so many others which have been reorganized in the past few years, is bolstered by additional legal assistance to be appointed and directed by the attorney-general but paid by the commission.[7]

Interesting, and somewhat similar to the office of public counselor created in 1933 in Indiana, is the office of People's Public Service Attorney established by the Alabama Legislature in 1935:

"Such attorney shall be appointed by the Governor, and shall hold office at the pleasure of the Governor. It shall be the duty of the People's Public Service Attorney to represent any and all patrons of any public utility, who shall request his services, in any hearing before the public service commission, and in any court proceeding where there is an appeal either by the patron, or the public utility involved; and he shall do so without compensation on the part of the patron. The People's Public Service Attorney shall devote his entire time to the service of patrons of public utilities toward the settlement of differences by and between such patrons and public utilities".[8]

New Hampshire introduced a degree of flexibility into its commission's organization by repealing the sections of the law which named the positions on the staff and the salaries connected with them. In their place a new provision explicitly authorized the commission "within the limits of the appropriations and for such purposes, to employ and fix compensation of such regular staff, including experts, as it shall deem necessary."[9]

In several states legislative investigating committees have been appointed to report upon the need for further change in the public utility laws to the next sessions of the legislatures. Among such interim inquiries may be mentioned the Massachusetts study into the practicality of adopting the sliding-scale method of rate-making, the New Hampshire study of the entire body of public utility laws, and North Dakota's comprehensive survey of the light, heat, power, and gas companies.[9a]

Assessing Utility Companies for the Costs of Regulation[10]

More states are now assessing the costs of regulation directly upon the utility companies. During the four years from 1931 to 1934 at least a dozen had adopted this method of financing the regulatory bodies. Utah is now to be added to this number, while Kansas has so broadened its act as to make it really felt for the first time. North Dakota amended its act to provide a revolving fund, New York enlarged its revolving fund, while Arkansas, West Virginia, and Alabama have substantially increased their rates of assessment. On the other hand, a contrary note was sounded by Massachusetts in repealing the generation-old law which levied upon electric, gas, and water companies and municipal electric plants one half of the commission's salaries and expenses.[11]

It is interesting to observe which of

[6] Acts 1935, No. 18. A similar proposal to change the name of the California Railroad Commission to the California Public Service Commission will be submitted to the voters of that State at the next election. (Laws 1935, Assembly Constitutional Amendment No. 63).

[7] Acts 1935, c. 115.

[8] H. B. No. 731, approved July 10, 1935.

[9] H. B. No. 301 (1935).

[9a] Massachusetts Resolutions, c. 58, Laws 1935; New Hampshire, House Joint Resolution No. 4; North Dakota Resolutions, p. 469. The latter bears quoting. It directs the Board of Railroad Commissioners to investigate public utility fees, the best method of securing justice from the utilities, and "what the approximate cost will be of the State of North Dakota buying the said utilities outright and whether, in their opinion, it would be advisable to do so."

[10] For review of 1931-34 legislation see 11 *Journal of Land & Public Utility Economics* 294 (August, 1935).

[11] Acts 1935, c. 411.

the various types of assessment laws are now being adopted. Utah's law is the indirect type which prorates the total cost of running the commission among all companies in proportion to their sales. No attempt is made to charge any one company with the particular costs incurred in investigating it. The maximum rate of assessment is ½ of 1% of revenue. Utah has reserved for payment by the state treasurer, however, ¼ of the commission's budget, and charges the utilities with only the remaining ¾. Such a reservation of a portion of the expense to the state is by no means new, but seldom is it so explicit. The law states that it is:

"the purpose and intent of this Act that for each dollar provided by the State for such support and maintenance the public utility companies shall in the aggregate provide three dollars . . . "[12]

The thoroughly revised Kansas law which replaces the rather punitive measure passed in 1931, is apparently modeled in general upon the Wisconsin statute.[13] It combines a direct assessment of costs of special investigations with the general prorating of all remaining costs. The direct assessment is to apply whenever the commission "shall deem it necessary to investigate any public utility or common carrier or make appraisals of the property of any public utility. . . ."[14] No assessments are made for investigations costing less than $100. Some check upon extravagance is provided in the requirement that the utility company must be given notice of the proposed investigation and, although the commission's finding is conclusive, a public hearing to "show cause, if any, why such investigation or appraisal should not be made." Nor are the expenses of an investigation chargeable in proceedings which are within the jurisdiction of federal regulatory bodies.

The indirect portion of the Kansas assessment is made at the close of each fiscal year. At this time the direct assessments are deducted from the total expenses incurred by the commission and the remainder prorated against the utilities and common carriers on the basis of their gross intrastate revenue. Direct assessments are limited by statute to ⅜ of 1% of a company's gross intrastate revenue in the last preceding calendar year, as compared with Wisconsin's limitation of ⅛ of 1%. The indirect or remainder assessment is limited to ⅛ of 1%, as is Wisconsin's, but has the further proviso that the total amount assessed shall not exceed $100,000 per year. Payments are made directly to the commission but are transferred by it to the treasury for deposit to the account of the commission fund.

While the revised Kansas law was patterned after the Wisconsin law, the North Dakota revisions were modelled after New York's. North Dakota adopted it original assessment measure in 1933.[15] This provided that the costs incurred by the commission in rate proceedings should be charged against the particular company involved. The 1935 innovation was the establishment of a $25,000 revolving fund into which such collections should be placed and from which expenditures should be made.[16] The revolving fund is kept by the state treasurer who draws checks on it only upon "proper voucher and audit by the State Auditing Board." This con-

[12] Laws 1935, c. 64, § 1.

[13] See 11 *Journal of Land & Public Utility Economics* 295, 298 (August, 1935).

[14] Laws 1935, c. 109.

[15] 11 *Journal of Land & Public Utility Economics* 298 (August, 1935).

[16] Laws 1935, c. 253, § 8. It may be noted that New York has appropriated another $300,000 to its commission's revolving fund. (Laws 1935, c. 855).

trasts with the original law which allowed the commission itself to collect, hold, and disburse the funds received from the utilities. Omitted from the new law are the New York provisions that restrict the payments from the fund to the salaries and expenses of employees not already provided for on the regular budget, and for which, of course, the Legislature has already made appropriations. While the North Dakota law is broader in this respect, it is less inclusive than New York's in restricting to rate proceedings the investigations that may be conducted with the fund. North Dakota continues to be one of the few states which have established no statutory limit upon the size of the levies that may be made upon a company in any one year. This State has repealed the previous provisions for collecting delinquent payments through tax assessments upon the property of the utility by the State Board of Equalization.

The new Arkansas Department of Public Utilities is provided with a threefold increase in appropriations. The 1933 levy of $2 per $1000 of gross intrastate operating revenue has been retained and $4 per $1000 added.[17] This brings the total annual assessment to ¾ of 1% of operating revenue. Petty fees have also been established for filing reports, rate schedules, and applications for approval of security issues and for certain other routine matters. All such fees and levies are to be received by the State Treasurer and credited to the Public Utilities Fund, from which he is to pay all the expenses of the commission.

Amounts thus collected for the Arkansas Department's expenses are *ipso facto* appropriated to the Department and immediately expendible. Since the companies are assessed annually with 3/5 of 1% of their revenues, plus petty filing fees, a top limit is put upon the amount of the assessments. No provision is included, however, for refunding to the companies any overcollections that may accumulate.

West Virginia is providing somewhat larger funds for its new commission as the latter gets under way. The annual levy upon the companies of $80,000 for the conduct of investigations is retained, and the temporary $90,000 assessment for general commission expenses is increased to $150,000 and made permanent. The former levy is prorated to the various companies according to the value of their respective properties as established for tax purposes. The $150,000 is assessed in proportion to gross intrastate operating revenues.[18] Similarly, Louisiana [19] and Tennessee[20] added to their commissions' resources by increasing the annual inspection and supervision fees (graduated according to gross revenues) that utilities in the state must pay.

Illinois now includes applications to issue securities among the proceedings whose cost may be assessed against the petitioning companies. The law also provides that a company shall bear the expense to the commission of defending its actions in the state or federal courts, and has raised the assessment limit, in effect, by the change from a maximum of ½ of 1% of utility revenue per year to an amount during any two successive calendar years equal to 1% of the utility's gross intrastate revenue in the first of the two years.[21]

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[17] Acts 1935, No. 324, §§ 52-54.

[18] Acts 1935, c. 83.

[19] Acts 1934, No. 2, approved March 2, 1935; Louisiana also has a special investigation assessment law established in 1934. See 11 *Journal of Land & Public Utility Economics* 298 (August, 1935).

[20] Laws 1935, c. 139.

[21] Laws 1935, p. 1099.

Rate Procedure and Control

Few additions were made to the commissions' authority over rate matters. One state was given the right to secure rate reductions by negotiation, thus short-cutting the usual formal procedure. The right to suspend rates was extended to several other states which have been seriously hampered in the past by the lack of positive authority to initiate proceedings on their own motion.

Emergency Rate Reductions. Easing of the pressure for emergency rate reductions is seen in the fact that legislation upon this once significant subject has practically stopped. New Jersey authorized its Board of Public Utility Commissioners while any rate hearing is pending "to negotiate and agree with any public utility for an adjustment of the individual rates . . . In no event shall such adjustment be regarded as contractual."[22] North Dakota not only retained but extended the applicability of its rather forthright emergency provision. In 1933 the Board of Railroad Commissioners was directed upon petition of 25% of a company's customers to negotiate for rate reductions, and if in 30 days a 15% reduction was not offered by the company, to order a 25% cut. The 1935 amendment permits the Commission to invoke this procedure upon its own motion.[23]

Suspension of Proposed Rates. Rate control in Arkansas and Connecticut has been materially strengthened by the authority to suspend rates when they are filed pending an investigation of their reasonableness, and to set them aside or modify them if found unjust, unreasonable, or discriminatory. In Connecticut the commission must make an investigation if so directed by the Governor. In this State[24] no limit is fixed on the period of suspension. Arkansas,[25] however, may first order a suspension of only 90 days, and then extend it for not to exceed six months. In both states, however, the utility may elect to put the rate into effect immediately if it files a bond to cover any overcharges during the period of litigation.

South Carolina enacted a bill to provide that when a utility company appeals from a commission order reducing rates it must give bond to the Tax Commission:

"sufficient to cover the amount that may become due to customers by way of refund during the time that the operation of the rate-fixing order is stayed . . . "[26]

North Dakota procedure for forcing emergency rate reductions[27] is now slightly modified to permit the utility to file a bond instead of depositing funds when it secures a stay or commission order pending the completion of judicial review.[28]

The new Arkansas act provides the Department of Public Utilities with the authority to make valuations[29] and prescribe depreciation rates. The depreciation control is one of the strongest given any state agency. It empowers the Department to:

"require any or all public utilities to carry a proper and adequate depreciation account . . . ; ascertain and determine and by order fix the proper and adequate rates of depreciation of the several classes of property of each public utility. Each public utility shall conform its depreciation accounts to the rates so ascertained, determined and fixed by the Department."[30]

[22] P. L. 1935, c. 49.
[23] Laws 1935, c. 253, §2.
[24] Cumulative Supplement to the General Statutes 1931, 1933, 1935, c. 196, § 1414 c (d), p. 592.
[25] Acts 1935, No. 324, § 18.
[26] Acts 1935, No. 23.
[27] See 11 *Journal of Land & Public Utility Economics* 175 (May, 1935) for original act.
[28] Laws 1935, c. 253, §3.
[29] Acts 1935, No. 324, §§ 19, 21.
[30] *Ibid.*, § 20.

Control over Securities and Dividends

Several states during 1935 gave tardy recognition to the need for control over security issues and dividend payments. Arkansas[31] and Connecticut[32] were given authority to control issuance of new securities, other than notes maturing within 12 months from the date of issue. The Arkansas Commission was also directed specifically to limit the amount of the issue to the fair value of the underlying property and to require an accounting for the disposition of proceeds.

Massachusetts, whose security regulation has for years been a keystone in its control over rates, moved to close one bothersome gap by reducing the maturity of short-term obligations exempted from control from three years to one year.[33]

Illinois struck out the requirement in its law that applications for security issues must be made within five years of the time when the capital additions are completed.[34]

Several more states have also been added to the long column of those having the authority to control the payment of dividends. This control has been extended to many of the strongest commissions in the past few years in the hope of preventing dissipation of assets, particularly at the hands of holding companies.

The 1935 New Jersey law states very simply that its Board of Public Utility Commissioners may "prohibit any public utility corporation from paying dividends except from surplus or net profits".[35] Utah requires its utility companies to serve prompt notice upon the commission, as well as to publish notice in the newspapers, of any dividend that is declared. The commission may prohibit any dividend disbursement that impairs the capital account.[36] The Illinois Commerce Commission, which has had control over dividends since 1933, may now attach to its order such conditions "as may be necessary to safeguard the public interest".[37]

New Jersey now has authority to approve of utility company investments to the extent that they are made with depreciation funds. The latter may be invested without specific authority in securities which are legal for savings banks or in securities issued by underlying companies located in New Jersey. Other investment of the funds may be made only upon securing commission approval. The latter may also require the utility to dispose of any securities in which the fund is now or may be hereafter invested.[38]

Holding Companies and Affiliated Interests

The movement to bring holding companies and other affiliates under jurisdiction of state public service commissions has continued through 1935.[39] Perhaps the greater persistence of this phase of legislation is traceable to the fact that it was the last to be brought under control and therefore the least advanced.

The belated federal legislation alters substantially the whole situation as regards the responsibilities and jurisdiction of state commissions. Yet the imminence during the 1935 legislative period of the passage of the federal holding company act is reflected in the actions taken by only a few states

[31] *Ibid.*, §§ 58-59.

[32] Cumulative Supplement to the General Statutes, 1931, 1933, 1935, c. 196, § 1414c (c), p. 591.

[33] Laws 1935, c. 222.

[34] Laws 1935, pp. 1096-8.

[35] P. L. 1935, c. 46.

[36] Laws 1935, c. 67.

[37] Laws 1935, pp. 1098-9.

[38] P. L. 1935, c. 61.

[39] See 11 *Journal of Land & Public Utility Economics* 177 (May, 1935) for earlier legislation.

unless, indeed, it is seen in their failure to act pending completion of the federal program. Connecticut issued its so-called "declaration of independence," while on the other hand at least three states took steps to facilitate cooperation with federal agencies.

The Connecticut Legislature issued what appears to be a direct challenge to further encroachment by federal agencies. It tried to retain exclusive jurisdiction for its own commission by outlawing all attempts at control by other government or foreign holding companies. The purpose of the Connecticut bill is stated frankly to be:

"to assure to the State of Connecticut full power to regulate its public service corporations, to increase the powers of the public utilities commission, and to promote local control of the public service corporations of this State".

A holding company is defined in Connecticut's act as any corporation, association, or person, which controls solely or jointly, directly or indirectly, any water, gas, or electric company. The law then provides that:

"No gas, electric or water company, or holding company, or any official, board or commission purporting to act under any governmental authority other than that of this State or of its divisions, municipal corporations or courts, shall interfere with or attempt to interfere with or exercise authority or control over any gas, electric or water company incorporated by this state, or with or over any holding company incorporated by this state and doing the principal part of its business within this state, without having first obtained the approval of the commission, except as the United States may properly regulate actual transactions in interstate commerce. Any action contrary to the provisions of this section shall be voidable on order of the commission".[40]

It is too early to appraise the strength of such a declaration of policy. The act at least expresses in unmistakable language one very understandable attitude toward assumption of further authority in Washington.

Nearby Massachusetts broadened substantially its commission's authority over affiliated interests. To its former authority to examine their books, its jurisdiction over "up-stream loans," and control over security issues through its Blue Sky Act, the 1935 legislation added the following:

"The department shall have general supervision of every affiliated company . . . with respect to all relations, transactions and dealings, direct or indirect, with the gas or electric company with which it is affiliated, which affect the operations of such gas or electric company, and shall make all necessary examination and inquiries and keep itself informed as to such relations, transactions, and dealings as have a bearing upon the price of gas or electricity supplied by such company or the quality thereof. Such relations, transactions and dealings . . . shall be subject to review and investigation by the department . . . and the department may order such affiliated company to be joined as a party respondent with such gas or electric company in such a proceeding".

The burden of proving the reasonableness of such transactions rests with the companies.[41]

Two other states have been given control over intercompany transactions for the purpose of assuring to operating companies the same terms they might be presumed to secure in arms-length dealing in the open market. These two states are New Jersey and West Virginia. New York has had such authority for some time but now has gone to the length of requiring competitive bidding on plant construction projects costing $25,000 or more.[42]

[40] Cumulative Supplement to the General Statutes, 1931, 1933, 1935, c. 196, § 1414c (f), p. 591.

[41] Laws 1935, c. 335, c. 164.

[42] Laws 1935, c. 13.

The New Jersey law now requires prior commission approval of all management, advisory service, construction, or engineering contracts made between a utility company and an "affiliated interest" if the consideration involved is greater than $25,000. All loans to affiliates must likewise secure approval. The Board is specifically directed to turn down contracts which fix a price in excess of "fair compensation." In checking the latter, the Board may avail itself of the books and records of affiliated interests so far as they relate to the transaction under review. An affiliated interest is defined as one controlling 5% of a utility company's capital stock, together with the subsidiaries of such an affiliate.[43]

The short West Virginia statute prohibits any utility from entering into any contract or arrangement with an affiliated corporation or interest unless prior approval has been secured from the commission. The commission may give its consent

"upon proper showing that the terms or conditions thereof are reasonable and that neither party thereto is given an undue advantage over the other, and do not adversely affect the public in this state".[44]

Transactions not approved are void "to the extent that the interests of the public in this state are adversely affected."

Illinois has made minor changes in its two-year-old comprehensive law governing affiliated interests. Here the amendments were designed to make the laws more workable, not by expanding, but by reducing the commission's jurisdiction. Affiliated interests were so broadly defined in the original bill as to include many business firms only remotely connected with the utility company through a common officer, director, or diminutive minority holding of stock, clearly too small to influence the utility corporation's policy.[45] Transactions between the utility company and such interests came within the commission purview. Carefully drawn blanket approval has been given to such transactions to facilitate everyday transactions while retaining ultimate control in the commission. To relieve itself of further control over such transactions an amendment has been secured which excludes from the commission's jurisdiction

"arrangements made in the ordinary course of business covering normal requirements at not to exceed standard or prevailing market prices".[46]

In a similar way it was found advisable to narrow somewhat the approval required of the commission over management and other service contracts with affiliates. It may now "consent to" rather than "approve" of service contracts, and such consent "shall not constitute approval of payments thereunder for the purpose of computing expense of operation in any rate proceedings."[47]

It may also be mentioned at this point that the newly reorganized commissions of Arkansas,[48] Utah,[49] and West Virginia[50] now have been given authority over the lease and consolidation of utility properties, and acquisitions of stock control.

Joint Regulation

Certain commissions have for some time possessed the authority to negotiate and cooperate with commissions

[43] P. L. 1935, c. 44.
[44] Acts 1935, c. 115.
[45] See 11 *Journal of Land & Public Utility Economics* 177 (May, 1935).
[46] Laws 1935, pp. 1095-6.
[47] *Ibid.*
[48] Acts 1935, No. 324, §§ 56-57.
[49] Laws 1935, c. 68.
[50] Acts 1935, c. 115.

of other states or of the Federal Government. Thus, in 1933 the neighboring states of Connecticut, Massachusetts, and Vermont each enacted legislation enabling their utility commissions, under the compact clause of the Constitution:

"to enter into compacts [with other states] . . . for the purpose of establishing joint regulation and control of rates for electricity and gas transmitted between such states."

In 1932, South Carolina gave its commission similar authority.[51]

This year the possible scope of coordinated regulation has been extended to federal as well as to other state agencies. The Arkansas Department of Public Utilities is permitted to

"cooperate with the regulatory commissions of other states and of the United States, and may hold joint hearings, and make joint investigations, with such commissions."[52]

Both the Illinois[53] and the New Hampshire[54] commissions were authorized to deal with any federal agency. Until this time both these commissions had been restricted to dealings with other state commissions or with the Interstate Commerce Commission. Vermont has opened the way to cooperation on the score of accounting by providing:

"public utilities under the jurisdiction of a federal commission shall not be required to keep any system of accounts and records, which would conflict with any requirement of such federal commission."[55]

These new provisions are explicit recognition of the widening sphere of federal activity.[56]

Concurrent Jurisdiction. The Arkansas Department of Public Utilities and the municipalities of the State now share original and concurrent jurisdiction over rates, service and extension of lines. To prevent duplication of administration, it is provided that

"cities and towns shall take no action with respect to any matter under investigation by the Department until the same has finally been disposed of by the Department, and the Department shall take no action with respect to any matter which is the subject of an ordinance or resolution pending before the council or commission of any city until the same has finally been disposed of."[57]

Appeals may be taken from an order of the municipality to the Department, but the latter may not set it aside without securing from the utility company a bond to guarantee its ability to refund any overcharges.

Conclusion

The determination of public policy has dominated the public utility situation in the past five years. A solution seems to have been reached, for the time being at least, in the new regulations which have been established and intrusted to the direction of the strengthened administrative agencies. Further legislative change in these states may be withheld until the latest statutes can be given a trial. Emphasis may therefore shift during the next year or two to the policies established by the commissions in administering their new authority. A probable subject for further legislation now seems to be the need for establishing a new balance between state and federal agencies.

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[51] See 11 *Journal of Land & Public Utility Economics* 186 (May, 1935).

[52] Acts 1935, No. 324, § 8 (b).

[53] Laws 1935, pp. 1093-4.

[54] H. B. No. 301.

[55] P. A. 1935, No. 161.

[56] Further influence of the federal activities is seen in the course taken by Tennessee (Laws 1935, c. 42) and Alabama (H. B. 37, 1935) to exclude from jurisdiction of their commissions all federal or municipal undertakings. This exemption is also extended to companies the majority of whose voting stock is owned by government agencies. Tennessee has excluded from its commission's jurisdiction cooperatives not engaged in business for a profit.

[57] Acts 1935, No. 324, § 15.

Urban Land Department

MORTON BODFISH, *Editor*

The National Housing Problem

THE housing problem may be divided into two parts: the one economic, the other social. The economic problem is to keep the supply of houses, or more correctly of dwelling units, in reasonable relation to the demand for them. The social problem is to keep the rent and the purchase price of decent dwelling units within the means of those who wish to live in them.

Overriding these problems in importance is the question of the part which government should play in their solution. For the extent to which public effort is permitted to supplant private enterprise will largely determine the character of our institutions in years to come, and even more so the character of the men living under those institutions. History affords numberless examples of governments which, in seeking a little more efficiency, a little more administrative skill, have sought to do for their citizens what they themselves should do. But, as John Stuart Mill said, "a State which dwarfs its men, in order that they may be more docile instruments in its hands even for beneficial purposes—will find that with small men no great thing can really be accomplished."

The Economic Problem

The relation of supply to demand, in so far as houses are concerned, is profoundly affected by periods of prosperity and depression. In the former, demand advances by leaps and bounds while supply stumbles slowly after. In the latter, demand recedes even more quickly, supply remaining almost stationary.

It is through one of these latter periods that we have just passed. As incomes have been cut, families have reduced the size of their living quarters, have doubled up, and tripled up. Boys and girls who ordinarily would have married have postponed the day thereof. Landlords have found their houses empty, their rents below the cost of maintenance. Banks and insurance companies have found themselves the holders of small homes and large apartment houses, the original owners of which could no longer afford to meet their obligations.

We are now entering upon a period which promises to be quite the opposite. Throughout the country vacancies are diminishing —where they were 20% they are now 2%; rents are beginning to rise; and new construction is getting under way. Indications are that, if events are allowed to take their course, the United States will soon be faced with a housing shortage. Returning prosperity will result in a rush of youth to the altar, in the undoubling of families, in a demand for larger quarters.

It will be necessary to build new houses and to remodel old ones in order to meet this economic demand, but it will be impossible, as usual, for supply to keep up with demand. The result will be sky-rocketing prices and sky-rocketing rents, which may result in the building of ill-planned and badly constructed buildings, in the passage of rent laws, and in all the other difficulties incident to a housing shortage.

If this analysis of the immediate future is correct, it is patent that the economic problem is to stimulate building now in order to anticipate the boom and avoid some of its evils.

In the future the problem will be the exact opposite; that is, to deter new building in preparation for a depression.

The Social Problem

The problem of keeping a proper relation between income and the cost of maintaining a decent home is quite different from the problem of satisfying an economic demand. The economic problem is easily susceptible to logical analysis; the social problem is difficult to analyze because it arouses our feelings and emotions.

In order to have a clear understanding of the nature of the social problem, it is necessary in the first place to define a decent home. It is one thing to put up clean, sanitary dwellings of truly low cost, and quite another to put up expensive dwellings containing all modern conveniences, which

can be rented cheaply only by means of large subsidies.

When decent homes have been defined, an inventory of their number and size in relation to the number and size of existing families must be made. For only if these figures are known can one estimate how many old dwellings should be remodeled and new ones built, and how large the units should be.

Then arises the question of finance. In what way can the difference be made up between the rent which owners must ask and which tenants can afford to pay? Returning prosperity will solve part of the problem, at least until the next depression, but for many years there are bound to be a certain number of families whose incomes and whose rent-payments can be brought into correspondence only through some sort of subsidy.

The Problem of Government

The part which should be played by government in the solution of these two parts of the housing problem is the question. On the one hand stand those who feel that government should supersede private initiative and enter the real estate business itself; on the other hand are aligned those who would deny government any part in the housing field. Between these two camps there is no ground for compromise, for their views are based on sentiment and emotion rather than reason and logic.

In so far as the economic problem of housing is concerned, Congress has cast the die for private initiative. The Home Loan Bank System, the Farm Credit Administration, and the Federal Housing Administration are all designed to promote private financing of homes. Direct lending by the government to home owners, an emergency measure of inestimable value, is drawing to a close. The course of the Administration in this part of the housing field is accordingly very clear: it is to stimulate and encourage the resumption of private building through a better organization of the mortgage market and through mutual mortgage insurance. In this category may be placed, too, the enlargement of the work of the Bureau of Standards, and the encouragement of such research studies as the Real Property Inventory, the Financial Survey of Urban Housing, and the statistical investigations of the Department of Agriculture.

The path which the government will follow in the solution of the social problem is less clear. The building of moderate-rental housing by private capital under the plan of the Federal Housing Administration, if rigorously developed, will do much to relieve the present situation. But that large part of our citizenry which cannot afford to pay an adequate rent for housing and which is now badly housed remains unprovided for. The determination of the number of such families, how they are to be selected for admission to the housing provided, the amount of subsidy needed, and the possibilities of raising the necessary funds are questions to which sufficient thought has not yet been given.

Other questions of import remain to be answered. One of these relates to the form of subsidy: Should part of the building costs be written off at the outset, should the owning corporation receive an annual grant, or should rent allowances be given to poor families? Another relates to the source of funds: Should the Federal Government bear the full cost of the subsidy or should it share the cost with state and local governments and with private individuals? A third relates to building and management: Should the Federal Government select the sites for new buildings, construct them and undertake their management, or should one or all of these functions be delegated to local authorities or private agencies?

Then the relation of the social to the economic problem must be considered, for to a certain degree the two are interdependent. The solution of the one may implement or may interfere with the solution of the other. Under a careful system of controls, subsidized housing may be kept out of competition with building for investment; under a careless system it may enter into competition and drive private capital from the field of building. Under one plan the housing program may be a national asset; under another, a national liability.

Conclusion

The Federal Government has entered the housing field for many different reasons and that field has been viewed from many points of reference by persons of the most diverse opinions and prejudices. The time has come when we must take stock of the situation

to the end that not merely the Federal Government but the nation as a whole may bend every effort to the carrying out of a sound reasonable program, designed to serve not only its material but its spiritual and moral needs. Certain activities, having served their purpose, must be discontinued; and certain others, designed for permanence, must be expanded.

The emergency and the need for hasty improvisation are over. We must now, in the words of Jeremiah, "make a stand upon the ancient way and then look about us and discover what is the straight and right way, and so to walk in it."

PETER GRIMM

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Government and Private Mortgage Loans on Real Estate

PRIVATE and public policy with regard to real estate financing, particularly urban mortgage financing, will be under discussion and determination during the coming months. This makes a factual canvass of the status quo pertinent and timely.

Three stages may be noted in the development of the mortgage credit market in this country. A hundred years ago mortgage funds were made available almost exclusively through private individuals. During the century just passed, private trustee institutions, such as building and loan associations, savings banks, insurance companies, and trust companies have developed and assumed a dominant position. The Federal Land Banks were established in 1916, and their activities were confined to the farm field. However, starting about 1933, a third era emerged in which the Federal Government has not only greatly expanded the extent and character of its farm mortgage lending operations, but also embarked on numerous mortgage lending activities in the urban field through several new agencies.

A commencement orator once took as his subject, "Whither are we drifting and, if so, to what extent?" In an attempt to assemble some data with which to survey the problem and with which to seek some tentative answers, a small group, representing the four types of trustee institutions, retained the Brookings Institution to make a survey of government and private mortgage loans on real estate.[1] The report arrived at no important conclusions, but merely summarized the existing situation.

The report has been privately circulated among the institutions at whose instance the survey was undertaken. Because of the improbability that the report will ever be printed in its entirety, this summary has been prepared. The data here presented are taken directly from the original report, except for the addition of certain more recent figures now available; the descriptive material has been considerably shortened; and in conclusion some questions as to the implications of the data for future policy have been raised.

The relation and impact of government rates and terms upon the larger and (from the point of view of business activity) more important private capital market must be thoughtfully considered and these data are presented for the contribution they make to an impartial study of this problem. Government activity in the mortgage lending field will be described first.

The Farm Credit Administration

On May 27, 1933, the Farm Credit Administration was established by executive order to become the successor of the Federal Farm Loan Board and, in addition, to consolidate several government agencies which had been providing agriculture credit. Activities of this agency are confined entirely to the farm mortgage field. The first government provision for real estate mortgage credit had been made in an act passed July 17, 1916, which authorized establishment of regional Federal Land Banks and Joint Stock Land Banks under the supervision of the Federal Farm Loan Board. The Federal Government subscribed to most of the stock of the Federal Land Banks, but the funded

[1] The members of the Committee representing the four types of institutions were: Mr. R. Graeme Smith, Assistant Secretary, Connecticut General Life Insurance Co., Hartford, Connecticut, *Chairman*; Mr. O. C. Lester, Vice-President, Bowery Savings Bank, New York City; Mr. Walter McMeekan, Vice-President, Manufacturers Trust Co., New York City; and Mr. Morton Bodfish, Executive Vice-President, United States Building and Loan League, Chicago, Illinois.

The actual work of preparing the report was done by Laurence F. Schmeckebier and colleagues of the Brookings staff.

obligations of these banks and all securities of the Joint Stock Land Banks were sold to the public.

In response to an insistent demand for farm mortgage relief, the Congress had passed (May 12, 1933) the Emergency Farm Mortgage Act of 1933, with the administration of its provisions vested in the Farm Credit Administration. This Act had a number of important provisions. In the first place, the issuance of additional bonds of the Federal Land Banks was authorized, the amount not to exceed two billion dollars and the interest to be guaranteed by the United States Government. The Act also provided for reduction of the interest rate on loans of the Federal Land Banks from 5% to 4½% and a moratorium on the principal for a period of five years, during which time the Government contracted to reimburse the banks for the reduction in interest.[2]

Provision was made in the Act for discontinuing the issuance of loans and bonds of the Joint Stock Land Banks. In order to insure orderly liquidation of these banks, the R.F.C. was authorized to advance 100 million dollars to the Land Bank Commissioner of the Farm Credit Administration, ¼ of which might be used to postpone foreclosures resulting from default. The RFC was further authorized to advance 200 million dollars to the Land Bank Commissioner for direct loans on farm properties.

In January, 1934, another act authorized the creation of a new agency, the Federal Farm Mortgage Corporation, also to be supervised by the Farm Credit Administration. This Act terminated the authority of the Federal Land Banks to issue bonds guaranteed by the Government, and at the same time made provision for the issuance of bonds by this new Corporation to the extent of two billion dollars to finance the lending operations of the Federal Land Banks. These bonds are guaranteed both as to principal and interest by the United States Government. As of December 31, 1934, $979,613,300 of these bonds had been issued, $579,453,480 of which were secured by deposit of consolidated Federal Land Bank bonds, leaving $400,159,820 not covered by deposit of underlying bonds.

This Act also provided that 600 million dollars of the two billion dollar bond issue might be used by the Land Bank Commissioner to make direct loans on farm properties. This, added to the previous authorization, rendered 800 million dollars available for these loans.

On September 30, 1935 the outstanding loans of the Federal Land Banks and Land Bank Commissioner amounted to $2,812,709,593. In addition to this amount $22,762,709 has been paid to the Federal Land Banks to recompense them for reduction of interest rates. These amounts do not include government interest in agencies advancing short-term agricultural credit.

Federal Home Loan Bank Board and Home Owners' Loan Corporation

Among the emergency measures passed by Congress in early 1932 was one permanent agency designed to buttress institutions operating in the home mortgage field—namely, the Federal Home Loan Bank System. This was created to facilitate the expansion of local mortgage lending activities, and was to be supervised by the Federal Home Loan Bank Board created by the act of June, 1932. In establishing the System, the country was divided into 12 districts, in each of which a Federal Home Loan Bank was organized for the purpose of extending long- and short-term accommodation to building and loan associations, savings banks, and similar institutions engaged in home financing. Local institutions, principally building and loan associations, have bought approximately $23,000,000 of stock in the System and the act provides for the retirement of the balance of the stock which was subscribed for by the United States Treasury.

The banking crisis and the continued depression made additional and broader legislation necessary to supplement the work of the 12 Federal Home Loan Banks and to relieve the pressure on the mortgage market,

[2] The policy of determining interest rates by legislative fiat and extending indulgence to nation-wide groups of debt without consideration of their individual needs and abilities is a dangerous public policy. Rates, terms, and indulgences should be matters of compromise between the rights, obligations, and abilities of debtors and creditors. If Government acts on a sweeping scale on behalf of debtors, not only is serious damage done to the mortgage market, from the point of view of private capital, but the basis for continued uneconomic rates and indulgences is laid and public clamor is continuously raised for more and more preferential treatment. This inevitable trend is clearly set forth as one examines the history of interest rates and terms of the Government with regard to farm mortgages.

resulting from foreclosures, maturities of short-term home mortgages, and the need for cash on the part of mortgage lending institutions. Thus in June, 1933 the Congress authorized and directed the Federal Home Loan Bank Board to create the Home Owners' Loan Corporation, with a capital stock not to exceed 200 million dollars to be entirely subscribed by the Treasury of the United States. This was to be in every sense of the word an "emergency" institution which was to relieve the mortgage strain and then liquidate.

To secure additional funds, the Corporation was authorized to issue bonds to the extent of two billion dollars, guaranteed as to interest by the Federal Government. In April, 1934, the Corporation was authorized to issue the same amount of bonds guaranteed as to both principal and interest, which were to be exchanged within six months for the original issue. The bonds which were guaranteed only as to interest carried a 4% rate, while the rate on those which replaced them has varied from 3% to 1½%, though only a small amount has been issued at less than 2¾%. The authorized issue of HOLC bonds has been subsequently increased, so that at the present time the total authorization amounts to 4,750 millions.

Up to October 3, 1935, the HOLC had made 924,041 loans, totaling $2,747,598,482. Of this amount $48,196,238 was spent in reconditioning properties and $190,000,000 in delinquent tax payments. Of the 960,856 additional applications which have been filed, 775,503 have been examined and withdrawn "for future consideration," which means, in general, that they have been found ineligible for one reason or another under existing rules, and 185,353 are pending for examination, with the possibility of their being approved.

While this agency has been providing emergency relief to home owners and, therefore, assistance to lending institutions, the real problems of the Corporation are ahead of rather than behind it. Accurate figures are not available as to delinquencies, either of principal or interest, and it is doubtful whether the real estate market will be so resilient as to save the Corporation from losses on many of its 80% loans. The mortgage portfolio of the Corporation, however, includes many excellent mortgages, where borrowers quite able to discharge their obligations to private institutions have voluntarily defaulted and obtained the more preferential Government financing intended for citizens really in distress but having some equity in their real estate. From such information as is available, it is estimated that payments in excess of $40,000,000, or approximately 20% of the total, are delinquent 90 days or more. On August 31, 1935, the Corporation had instituted foreclosure proceedings in 1,459 cases and had come into possession of 192 houses.

Reconstruction Finance Corporation

The RFC was created early in 1932 to provide emergency funds for financial institutions. The original act authorized the Corporation to make loans for a one-year period only, but the President was given authority to extend its operations for a second year. This was done and its loan operations have since been extended by legislative enactment to February 1, 1937.

The RFC obtains its funds through sale of notes, guaranteed as to both principal and interest by the Government. Practically all these notes have been purchased by the United States Treasury which has, in turn, sold Treasury notes to the public.

Operations of the RFC itself have not been extensive in the mortgage field. It was authorized by the Emergency Relief and Construction Act of July 21, 1932 to make loans on self-liquidating projects. Later, upon creation of the PWA, this authority was transferred to the Administrator of Public Works, but the RFC was subsequently authorized to make additional advances for completion of projects begun prior to creation of the PWA, and to make loans for repairing buildings damaged by earthquake. The total amount of these self-liquidating projects, which may be regarded as mortgages, is only about 10 million dollars.

The Act of January 31, 1935, which provides that the RFC may subscribe to the stock of mortgage loan companies in an amount not to exceed 100 million dollars, is of more significance in the mortgage lending field. In accordance with this provision, the Corporation has organized the RFC Mortgage Company, with a capital stock of 10 million dollars, and has subscribed to all this stock. The mortgages which the Company acquires may be rediscounted with the RFC.

The purpose of the RFC Mortgage Com-

pany is to make loans on types of property which have not been accommodated by other government agencies and is not to compete with private lenders on real estate "where loans may be had from them on reasonable rates." Loans of the following varieties were to be made: (1) on income-producing business property, including apartments, hotels, and business and office buildings, on which mortgage loans are in default or about to mature; (2) to individual distressed holders of mortgage bonds and mortgage certificates; (3) for construction of new buildings for which there is an economic need.

As of October 7, 1935 the loans and commitments authorized by the RFC Mortgage Company and approved by the RFC totaled $18,128,820, of which $2,354,600 was for new construction and $15,773,695 was for refinancing.

Federal Housing Administration

The National Housing Act, approved June 27, 1934, created the Federal Housing Administration which has three major purposes: insurance of loans for renovation;[3] insurance of long-term mortgages; and the creation and supervision of national mortgage associations. The FHA, contrary to general opinion, has no capital with which to make loans. Money for carrying out the purposes of the National Housing Act is to be supplied entirely by private enterprise, predominantly commercial banks, operating on a lending plan essentially the same as that of building and loan associations. The Government's function is merely to protect the lender against loss through insurance of the mortgage, for which the borrower pays an annual premium.

Title II of the Act, dealing with insurance of long-term mortgages, provides for insurance of mortgages on two kinds of properties: (1) dwellings with a maximum capacity of four families, and (2) low-cost, limited-dividend housing projects.

Cost of this insurance for dwellings is ½ of 1% per annum of the original principal of the mortgage. Thus, the annual insurance premium remains the same throughout the life of the mortgage and the carrying charge in the later years becomes an increasing percentage of the unpaid principal balance.

Activities of the FHA along these lines have apparently not met with a great deal of enthusiasm on the part of those who were expected to take advantage of the plan. In recent months the FHA has declined to state how many mortgages it has insured or the amount of these mortgages, on the theory that these figures would not give a fair picture of what it is doing. On September 16, 1935, announcement was made that the total of mortgages "selected for appraisal" was $165,236,197, along with the statement that it was estimated that 29% of these will be rejected and 40% are for new construction.[4] The term "selected for appraisal" means only that the FHA has agreed to appraise properties represented by these mortgages.

Information on the second type of insurance—for low-cost housing—is more difficult to obtain. This insurance was not designed to provide for slum clearance or to furnish housing to the lowest income class, but rather to those able to pay approximately $50 a month for dwelling units. Up to the end of April, 1935, applications had been received for 80 projects, with a total value of 250 million dollars. At least 15 of these, with a value of 25 million dollars, appeared likely to be approved.

Under Title III, which provides for the incorporation of national mortgage associations to be supervised by the Federal Housing Administrator, little has been done and to date (October, 1935) no association has been formed. Originally each association was to be required to have a capital stock of not less than five million dollars and was authorized to borrow an amount not exceeding 10 times its capital stock and not in excess of the mortgages held by it. An amendment provides for a minimum capital

[3] Since loans for renovation are not secured by mortgage, they need not be considered here. However, in passing it may be remarked that the repair and rehabilitation program conceived under Title I was an extremely sound and wise project. In its actual administration it has been directed largely toward establishing short-term personal credit facilities in commercial banks and the concept of renovation or modernization has now been expanded to include ordinary sale and financing of refrigerators, plant equipment, and the like.

[4] In the spring of this year, figures as to the number and amount of these mortgages were given out. On April 20, the number of individual applications was 5,825, amounting to $24,433,000. Of this total, definite commitments had been made for 2,770, amounting to $12,101,600, while 752, representing $2,875,600, had been definitely rejected, leaving 2,303 applications for $9,445,800 under consideration.

of two million dollars and permits each association to borrow to an amount not exceeding 12 times its capital stock. The reason advanced by the Government for inactivity in this field is that the margin between the interest received from mortgages and the interest which must be paid on the bonds is not sufficient to pay operating expenses.

Housing Division of Federal Emergency Administration of Public Works

As noted above, the Emergency Relief and Construction Act of 1932 (approved July 21) provided for loans by the RFC to limited-dividend housing projects and for slum clearance. With the establishment of the Federal Emergency Administration of Public Works in 1933, these projects were placed under its jurisdiction and at the same time additional and broader powers were conferred upon this agency.

Originally it was the belief that low-cost housing and slum clearance projects should be undertaken by private capital. The Government was willing to advance 85% of the value of the property for this work. It developed later, however, that in most of the projects submitted for consideration the sponsors did not have sufficient funds available to justify the advance from the Government. Applications of seven projects were approved for which the PWA advanced $10,971,600. Although these projects are all either completed or nearly completed, the Government some time ago abandoned its practice of making loans to limited-dividend corporations because substantial groups willing to undertake the task could not be found.

Thereupon, the PWA itself went into the business of building and operating urban housing projects. In April, 1935, it was announced that 139 million dollars had been allocated for projects in 28 cities. However, at the end of August, PWA expenditures for urban housing projects in Atlanta, Cleveland, Indianapolis and Montgomery, Alabama, totaled $10,938,000. Only one of the projects had been completed. Bids had been opened, however, on three more.

The cost of the Housing Division of the PWA is being financed by appropriations rather than by bonds. While it has been estimated that the Government's activities in this line would run into the hundreds of millions of dollars, actual expenditure by the PWA amounted to slightly less than $22,000,000 to the end of August, 1935.

Resettlement Administration

This agency was formed by an Executive Order of April 30, 1935, to absorb the activities of the Subsistence Homestead Division of the Department of the Interior and the Rural Rehabilitation Work of the Federal Emergency Relief Administration.

The National Industrial Recovery Act of 1933 made available a revolving, self-liquidating fund of $25,000,000, to be used in aiding to redistribute the overbalance of population in industrial centers and "for otherwise aiding in the purchase of subsistence homesteads." This work was carried on until recently by the Department of the Interior, which spent $5,500,000 of the allotted 25 million dollars.

The purpose of a subsistence homestead is to enable a person who is employed only a part of the time to have available a tract of land on which he may raise a part of his food supply. To date, three such projects have been completed and five more partially completed. Occupants of these subsistence homestead projects have to pay monthly rent and must make their living out of the soil and the industries in the immediate neighborhood. Where industries already present do not furnish adequate employment for these homesteaders, the Government has endeavored to encourage establishment of other small industries near the project.

On the other hand, the FERA, in its rural rehabilitation work, has been providing rural homesteads for persons who are on relief. In both these instances the individuals make no down payment and are usually given a two-year lease, which is followed by a conditional sales contract, but the title will not pass until a substantial amount has been paid on the purchase price.

Activities along these two lines have not been very extensive. The subsistence homestead projects, which are under way and have been completed, will house about 600 families and the rehabilitation projects now house something like 1,500 persons, or not more than 500 families. With the consolidation of these two agencies under the supervision of Under-Secretary Tugwell, comes the announcement that he is not going to continue pushing the plans already made, but intends to direct activities along lines of

his own as soon as the Works Relief program has been straightened out.

Table I summarizes the various mortgage lending operations of the government.

While the government agencies described above confine their loans largely to a particular class of property, the private lending institutions cover generally the entire field of mortgage lending. The private institutions considered in this survey include banks and trust companies insured under the Federal Deposit Insurance Corporation, mutual savings banks, life insurance companies, and building and loan associations.

Life Insurance Companies[5]

These private lending institutions make loans on farms and almost every kind of improved city property. As of December 31, 1934, the companies contacted had outstanding loans on city property equal to 3.7 times those on farms. As regards city property, most of the companies interviewed stated a preference for single dwellings, small apartments, and retail business property, although a great majority in dollars of their mortgage loans are on business property and large apartments. The amount loaned on these properties ranges from 40% to 60% of the appraised value.

As to the period of the loan and the amortization required, a wide variety of practices was encountered, and there were distinct evidences of a change in these policies. In the past, the period on city loans ranged generally from three to five years, with annual amortization of from 2% to 5%. The period for loans on farm property was somewhat

[5] Information as to the lending policies of life insurance companies was obtained through interviews with representatives of selected companies. It is believed, however, that the data collected give a fairly complete picture of the methods utilized.

TABLE I. BRIEF OF MORTGAGE RATES AND TERMS OFFERED BY GOVERNMENT AGENCIES

Government Agency	Type of Property Serviced	Size of Loan		Period	Interest Rate	Method of Repayment
		Per Cent of Value	Amount			
FARM CREDIT ADMINISTRATION						
Federal Land Banks	Farm	50% Land 20% Improvements	$50,000	30 yrs. or more	3.5%*	Semi-Annually
Land Bank Commissioner	Farm	75% Agricultural Value	$ 7,500	13 yrs.	5%	Semi-Annually
HOME OWNERS' LOAN CORPORATION†	Owner-occupied 4-family units	80%	$16,000	15 yrs.	5%	Monthly
RECONSTRUCTION FINANCE CORPORATION MORTGAGE COMPANY	Wide variety	No limitation		10 yrs.	5%	5% Annual Amortization
FEDERAL HOUSING ADMINISTRATION INSURANCE	4-family units	80%	$16,000	20 yrs.	5%	Monthly
	Low-cost (not slum)	80%	.....	.....	5%	.....
PUBLIC WORKS ADMINISTRATION						
Limited-Dividend Projects	Low-cost (slum)	85 to 90%	.....	25 to 30 yrs.	5%	Semi-Annually
Government Projects to Revert to Cities		All 30% cost of labor and material donated	.....	44 yrs.	4%	
RESETTLEMENT ADMINISTRATION						
Rural Rehabilitation Subsistence Homesteads	Farms	100%	.....	30 yrs.	3%	‡

* Recent legislation provides that the rate shall not exceed 3.5% to July 1, 1936, and 4% to July 1, 1938.
† Loans only for refinancing of mortgages in existence June 13, 1933.
‡ Applicants are given a two-year lease which is followed by a conditional sales contract.

longer, extending from five to ten years, with various provisions for amortization of a portion of the principal. Recently, however, several of the companies have been making loans on both kinds of property for periods as long as 20 years and requiring complete amortization during the life of the mortgage. Most of the companies interviewed collect interest semi-annually, but some make only annual collections on farm properties. In some instances there seems to be a tendency to make quarterly or even monthly collections on city properties.

Interest rates also vary on the two types of property, ranging on city property from 4½% to 6%, and on farm property from 5% to 6%. The lower rates for both city and farm loans have, as a rule, applied on recent loans that are small in proportion to the appraised value.

Banks[6]

City loans of trust companies and commercial banks amount to 5.7 times their loans on farm lands, while savings banks lend almost exclusively on city property. As regards the relationship between amount loaned and appraised value, banks appear generally to favor the 50% limit, although some do not lend more then 40% while others lend as high as 60%.

As in the case of insurance companies, the periods for which loans were granted and the amortization requirements vary widely. Most of the loans run for one, three, or five years, but a few were reported with a 10-year maturity and one bank reported loans ranging from three to 20 years. Most of the reporting banks require amortization, but the amount varies widely from 1% semi-annually to 10% annually, some part of the variation being attributable probably to the character of the loans. Semi-annual payments, with a slight trend toward quarterly payments in the case of savings banks, seem to be the custom.

The variation in interest rates is identical with that of insurance companies, ranging from 4½% to 6% on city properties, and 5% to 6% on farms. As a rule, however, applications for bank loans come directly to them and no commission is charged, while in the case of the insurance companies some commission is charged for the mortgage correspondent or authorized broker.

[6] In obtaining data from the various types of banks, information was procured from a number of selected institutions of each type. Thus, the results cannot be said actually to apply to a majority of the institutions, but, as the sample was picked at random, the tendencies demonstrated should present a fairly true picture.

Building and Loan Associations

Mortgage lending practices among the more than 11,000 building and loan associations exhibit much more uniformity than is shown by the two groups of private trustee institutions. In the first place, loans are made almost exclusively on urban residential property. Most associations do not loan over ⅔ of the appraised value, though the newly formed Federal associations may loan up to 75%.

Probably the most outstanding feature of the building and loan lending is the long period of the loan, generally around 12 years, and its complete amortization during this period by regular monthly payments. Until recently the practice in building and loan has been for the interest payment to remain the same throughout the life of the loan, with the borrower receiving a dividend on his share payments accumulated for ultimate retirement of the loan. At present, however, many associations have adopted the direct reduction loan plan, which calls for payment of interest on only the unpaid balance.

According to reports received by the Federal Home Loan Bank Board, 57% of the associations charge rates of 6% or less, and only a small number of associations charge more than 7%. The rates recognize the higher percentages typically loaned by these associations and also varying conditions in the communities where they operate.

Extent of Private and Public Mortgage Lending

Mortgage loans held by insured banks and trust companies, mutual savings banks, life insurance companies, and building and loan associations on December 31, 1934 were reported as follows:

Farm loans	
Insured banks and trust companies	$ 500,580,000
Life insurance companies	1,158,122,000
	$ 1,658,702,000
Loans on other than farm property	
Insured banks and trust companies	$ 2,835,166,000
Mutual savings banks	5,500,000,000
Life insurance companies	4,259,662,000
Building and loan associations	4,767,053,000
	$17,361,881,000
Grand Total	$19,020,583,000

The total of outstanding loans of the above groups declined steadily between 1929 and 1934. During recent months, however, a substantial increase has occurred in farm and city loans by life insurance companies, in farm loans by banks, and in city loans by building and loan associations.

While appropriations of staggering size have been made by the Government to alleviate distress in the mortgage lending field, actual expenditures have not been so impressive. The following summary shows these commitments at the latest dates for which figures are available:

Farm loans	
Farm Credit Administration—Loans of Federal Land Banks and Land Bank Commissioner (Sept. 30, 1935*)	$ 2,812,709,593
Urban Loans	
Home Owners' Loan Corporation (Oct. 31, 935)	$ 2,747,598,483
R.F.C. Mortgage Company (Oct. 7, 1935)	18,128,820
P.W.A. (August 31, 1935)	
Limited-Dividend Projects (Private Initiative)	10,971,600
Government Projects	10,938,000
Subsistence Homesteads (New Resettlement Adm.)	5,500,000
	$ 2,793,136,903
Grand Total	$ 5,605,846,496

*In addition to this amount $22,762,709 has been paid to the Federal Land Banks to recompense them for reduction of interest rates.

Questions Raised

This survey of the present status of public and private mortgage lending in both the farm and urban fields raises many questions as to future policies and the effects of present ones. The following questions suggest some of the broader implications of the findings in the report; many others are inherent in the data.

1. Is the trend toward an expansion of government credits and a continuation of government intervention in the farm and urban mortgage fields?

2. If major governmental activity in the lending field is an emergency measure, what steps should be taken to transfer such mortgage investments of the government back to private institutions? In the present situation is an early withdrawal of government from farm and urban mortgage lending possible?

3. Is it wise for government to establish the price of capital by legislation or subsidy? Will such rates and prices be effective unless government undertakes the whole job of real estate finance?

4. Are the interest rates now offered by government agencies and the policy of the government to decrease interest charges consistent or practical in view of the efforts being made to raise all other prices? If other prices do rise, will it be possible to maintain or force lower prices of capital?

5. To what extent would a national policy of reduction of mortgage interest rates handicap private institutions in securing long-term as contrasted with short-term capital? Are savers and their interests that are the backbone of private trustee institutions receiving adequate attention in the revamping of the mortgage credit structure of the country?

6. In view of the natural relationships of government with its citizens and government's problems in selection and retention of personnel, can such matters as loan policies, appraisals, collections, foreclosures, and the like be administered as economically and as safely by government agencies as by private enterprise?

7. Is it possible or practical to confine government credits to non-competitive, social projects which private capital cannot service? Might not government wisely assist or protect private capital invested in such projects or arrange for co-responsibility with private capital in the construction and operation of projects for those groups that cannot pay economic rents?

8. Rather than engaging in direct lending might not the public interest be better served if government were to (1) supervise, guide, and improve mortgage lending practices; (2) promote legislation to such ends as eliminating the red tape of foreclosure procedure, thus enabling private capital to make higher percentage loans at lower rates; and (3) use the large-scale facilities which it alone possesses for conducting surveys, and assembling and analyzing data on the mortgage market?

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The Taylor Grazing Act Amendments*

ALTHOUGH the amendments to the Taylor Grazing Act passed by the last Congress were vetoed by the President and are therefore inoperative, it is interesting to review them together with the reasons for the veto. Experience with the law indicated that certain amendments were desirable, but those proposed brought out again the old conflict between local and federal control and interests.

The Taylor Grazing Act (June 28, 1934) was designed to "stop injury to the public grazing lands by preventing overgrazing and soil deterioration, to provide for orderly use, improvement, and development, to stabilize the live stock industry dependent upon the public range, and other purposes." A year after enactment of the statute, after the Division of Grazing Control had been set up in the Department of the Interior, and as the program of action went into effect to establish grazing districts and allocate permits for use of range, certain weaknesses became apparent in the law. The most important of these was that of the 80 million acre limit placed on area of districts to be formed.

Of the remaining 165,695,000 acres of public domain (June, 1934) at least 142 million acres are suitable for the formation of grazing districts and the Division of Grazing Control, in cooperation with stockmen in the states concerned, had proposed districts to include all that acreage. If the 80 million acre limit is held to, it would mean delay in establishment of districts and continuation of the very conditions the Act was originally designed to correct. During the process of conducting the necessary organization meetings in the local communities in which districts were to be established it became evident that more stockmen were dependent on the use of grazing permits than 80 million acres would accommodate.

To correct this and other apparent weaknesses a number of amendments to the Act were passed in the closing weeks of the last session of Congress.

An outline of these is as follows:

1. One hundred and forty-two million acres of public lands may be placed in grazing districts.
2. The public lands should be classified and those more valuable for agriculture than grazing should be open to entry in tracts of 320 acres.
3. Gifts of land within grazing districts may be accepted by the Federal Government, and privately owned land within districts may be exchanged for publicly owned lands outside district boundaries.
4. The Secretary of the Interior shall proceed as rapidly as possible with exchange of state owned lands within for publicly owned lands without grazing districts and fees for the same are to be reduced.
5. Isolated tracts of public land may be leased in unrestricted amounts.
6. All vacant, unappropriated and unreserved nonmineral lands in tracts of 760 acres or less, which at the expiration of two years after the adoption of this Act are not included within grazing districts or leased, are to be granted to the states.

Upon advice of the Departments of Agriculture and the Interior, President Roosevelt vetoed the measure. His reasons are implied in the statements that: "Other changes effected by the provisions of this Bill are not sound. They would nullify in large measure the benefits of the Taylor Grazing Act and would make administration of that Act along sound conservation lines virtually unattainable . . . I am confident that at another session of the Congress the matter can be reconsidered and more suitable legislation passed."

President Roosevelt attached to his veto a copy of Secretary Ickes' memorandum of objections, which may be summarized as follows: The phrasings are vague and obscure in many portions and can be interpreted to mean something entirely different than that which Congress intended. The 142,000,000 acre limit to grazing district acreage is acceptable (The Secretary has recommended that there be no restriction.), but the advantages to be gained from raising the limit (from 80 million acres) would be far outweighed by the other details. The bill makes mandatory the exchange of state owned lands for public lands on the application of the state, and such lands may be within or without a grazing district. Thus

* For a discussion of the original legislation see the author's article on "The Taylor Grazing Act," 11 *Journal of Land & Public Utility Economics* 203-206 (May, 1935).

the state could gain control of the district, and could also obtain lands upon which the United States Government had expended funds and constructed improvements. Through use of the exchange feature the state could increase the amount of isolated, vacant, unappropriated, and unreserved non-mineral lands, and at the expiration of two years such lands would revert to the state. By pyramiding these exchanges the Federal Government could be deprived of most of its public land holdings and the breath of life would be taken out of the present grazing law. The instability of the live stock industry would be increased. The small operator could expect to suffer from the actions of larger interests which would be more influential in obtaining special consideration in the handling of state lands. A further provision makes it mandatory that occupants of lands contiguous to isolated tracts of public domain shall be entitled to lease them. Thus the large holder could further increase his grazing lands to the disadvantage of the smaller operator. Leases would be insecure for, when lands are exchanged, the lease on them is automatically cancelled. One of the merits of the Taylor Act of 1934 was that it gave the small equal opportunity with the large operator in enjoying the benefits of the Act—a thing impossible under the new provisions.

Upon the basis of these criteria Secretary Ickes recommended that the President veto the Bill. The *American Cattle Producer* (September, 1935) criticizes the veto on the grounds that many stockmen will be disappointed in their hopes for immediate and adequate range control, and that the executive branch of the government should confine itself to administration and leave law-making to the legislative body, which is closer to the needs and desires of the people. But it is to be remembered that before there can be effective administration there must be a law that will serve as an effective administrative instrument. In this case the weight of the undesirable portions of the Bill seems to be heavier than that of the desirable ones. In the opinion of Secretary Ickes the defects are strong enough to have made more remote the goal which the initial Act was designed to reach. A delay in action is not so great a sin as a step in the wrong direction.

Formation of grazing districts other than those within the 80 million acre limit will be delayed until further legislation is enacted. But this does not necessarily mean that there can be no regulations or restrictions on this balance. The 1934 Act gave authority for leasing of these lands and a statement from Secretary Ickes on September 11, 1935, indicates that the legal division of the Department of the Interior holds that jurisdiction over grazing on the entire public domain could be assumed under the Presidential proclamation of February 9, 1935, which withdrew all public land from entry.

Occasionally the argument is presented that the solution to the question of "what to do with the remaining public domain" is to grant it to the states in which it is located. However, the probable lack of coordination and correlation of policy among states is sufficient evidence that this is no solution of the problem. The amounts of land in public ownership are sure to increase through the Submarginal Land Purchase Program, reversion of tax-delinquent lands to county or state, cancellation of sale contracts, foreclosures of state farm loans, and reversion of defaulted irrigation and drainage district lands. Though the Taylor Act applies only to the public domain, its provisions can be applied to lands in all types of ownership. It is to be hoped that the major portion of the land suitable only for grazing, whether in federal, state, county, or private ownership, will be controlled under the Act to the benefit of the live stock industry and the various units of government.

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Recent Amendments to the Wisconsin County Zoning Act

THE enabling legislation for county zoning in Wisconsin is embodied in Section 59.97 of the Statutes. The Legislature of 1935 adopted two significant amendments which are contained in Chapters 303 and 403 of the Laws of 1935.

These two acts affect very materially the scope and application of Wisconsin zoning

laws, and in some of their aspects place the county authority on a much broader and more comprehensive base than is the same authority now granted to cities. In fact, a comparison of the county and city enabling acts, as they now stand, shows that the county may exercise its police power for planning purposes with much less speculation as to the outcome than can the city.

The zoning of counties has not yet reached the same degree of popularity as has the zoning of cities. Nor has it acquired the large mass of court support. Since both have the same foundations in law and are based upon the same broad principles, past experience with zoning in cities may well justify these later legislative expressions.

The first amendment to the Wisconsin county zoning enabling statute adds to the present authority the power to regulate and restrict "the location, height, bulk, number of stories, and size of buildings, and other structures, the percentage of lot which may be occupied, size of yards, courts and other open spaces, the density and distribution of population." The added words make this section now as definite as the city enabling act, and go beyond it in that the words "number of stories," "size" and "density and distribution of population" are not found in the city act.

The next important change is an entirely new clause reading as follows:

"and may further regulate, restrict and determine the areas along natural water courses, channels, streams and creeks in which trades and industries, and the location of buildings for specified uses may be prohibited, and may adopt an official map which shall show thereon the natural water courses, channels, streams and creeks which may be restricted."

This addition was endorsed by the Milwaukee County authorities and is a result of some of their experience. Many of the stream and creek bottoms are subject to flood and overflow, so that the placing of new buildings and uses in such areas has an immediate effect upon the public purse in the matter of flood protection. These lands, because of their situation, are subject to many actual or potential nuisance uses which may now be prohibited. It also presents an opportunity to preserve such lands for park and recreational use, to which it is much more suited. This amendment applies outside of incorporated cities and villages.

A further addition to this section provides that in the matter of amending any county ordinance, such amendments shall be submitted to the town boards "of the towns in which such lands are located" and their approval must be obtained "as to each such change" before adoption by the county board.

The second bill, which became Chapter 403 of the Laws of 1935, amends Subsection 4 of Section 59.97 and adds thereto a new subsection. The amendments to Subsection 4 changed entirely the status of nonconforming uses. Originally they could continue and could be altered or added to. The law now provides that, while the nonconforming uses may be continued, "alterations of, or additions to" them "*may be prohibited.*"

The new subsection, numbered 7, is of major interest and importance. It must be remembered in this connection that northern Wisconsin consists largely of cut-over timber lands which are now being occupied by settlers and others who, in many cases, eke out the barest living. These lands are located principally in 20 counties, all of which are now zoned. The zoning was undertaken as a major step in governmental economy and as a means of saving the costs of various school, road, and other aids granted to them, and of increasing the efficiency of these services. After the adoption of the zoning ordinances and as an aid to their enforcement some of the counties voluntarily recorded each non-conforming use, its extent, and description. This was then an extra legal step designed purely as an aid to the acquisition of the lasting benefits of zoning, in that it would center attention upon the alien uses and the necessity of their gradual abatement. The records appeared to be of such value that it was deemed advisable to amend the statute so that, in the future, records of nonconforming uses would be required. This was done and the law now requires that:

1. Immediately after adoption of the county zoning ordinance the board of supervisors shall cause to be made a record of all non-conforming uses.

2. The record shall contain the names and addresses of the owner, and occupant, if other than the owner, the legal description of the land, and the nature and extent of its use.

3. The list is to be filed with the county clerk and a certified copy with the register of deeds.

4. The record shall be reviewed and corrected.

5. The county clerk shall furnish each assessor with a list of non-conforming uses in this district.

6. The assessor shall, each year, file a written, certified report with the register of deeds of all non-conforming uses which have been discontinued.

7. The list shall be filed with the county clerk and a certified copy with the register of deeds.

It is felt that the making of this record and the continuing inventory will be of great aid in the control of non-conforming uses; it will be of service to prospective purchasers and prevent extension of such uses and the establishment of new ones.

Any consideration of Wisconsin zoning statutes should not omit the fact that nearly ⅛ of all counties in the State are now zoned and more are undertaking it and that this zoning includes everything from highly urbanized areas as in Milwaukee County to sparsely settled cut-over lands of the north.

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Erosion Notes

THE Coon Valley project described in previous numbers of this *Journal*[1] is no longer the sole erosion control project in Wisconsin. Two new projects have been approved, one in Grant County embracing 28,500 acres and the other in Trempealeau County comprising 24,700 acres. These two counties lie in parts of the Driftless Area with somewhat different characteristics than the Coon Valley area. The same general program of soil conservation will be carried out on the new projects, except that the Conservation Service will be less liberal in furnishing commodities such as wire, seed, and fertilizers, but the terracing, streambank work, reforestation, fencing, and gully control will be continued as before.

The expansion in Wisconsin is typical of enlargement of the soil conservation work throughout the United States. Ninety-four new erosion control projects were announced on August 5, 1935 with an allocation by the President of $27,500,000 of Work Relief funds. The expanded program starts from a nucleus of 47 existing projects and will include demonstration areas in 41 states. Eleven states will have projects which were not included in the first 47 assignments. The selection of the areas within the states is premised on erosion conditions, the cooperative attitude of the farmers, the suitability for demonstration purposes, and the relief rolls.

These erosion projects are designed to demonstrate to farmers the best methods of preventing and controlling soil washing. Farmers are under contract to follow prescribed practices for five years. It is hoped that this period will be sufficient to demonstrate not only the engineering and agronomic practices to the farmer and his neighbors but also prove to him that such practices pay. However, many students of land utilization problems feel that positive inducements for soil conservation problems must be created to complete the program. The Wisconsin Forest Crop law[2] is an example of inducements to private owners to practice forestry. This law, however, is not designed to aid the farm woodlot owner, although fairly large tracts of farmer-owned forests can legally be entered under the law. The 1935 Legislature, however, passed a law designed as an inducement to the conservation of farm woodlots and erosion control on steep land. According to Chapter 27 of the Laws of 1935, woodlots are exempt from taxation where they are an integral part of a going farm "if the same is enclosed with a legal fence sufficient to keep out horses, cattle, sheep, hogs or other grazing animals." The exempted part, however, may not exceed ⅛ of the total area of the farm.

In addition, exemption is to be allowed on any land with a gradient of more than

[1] Melville H. Cohee, "Erosion and Land Utilization in the Driftless Area of Wisconsin," 10 *Journal of Land & Public Utility Economics* 243-253 (August, 1934); Melville H. Cohee and R. H. Davis, "Checking Erosion in the Upper Mississippi Valley," 11 *Ibid.* 240-247 (August, 1935).

[2] Statutes, sec. 59.98.

30%, provided it is enclosed with a fence of not less than three barbed wires and the owner refrains from cultivating or mowing it. The owner must also agree not to graze the slopes with any type of live stock nor burn over such land, or at least take all reasonable precaution to prevent such burning. The owner must also make a reasonable effort to reforest the exempted portion of his farm or revegetate it "with grass or shrubs such as will prevent erosion or excessive run off."

To obtain exemptions for these two types of land the owner must file an affidavit with the town clerk setting forth the boundaries of the land to be exempted. He is to certify that the woodlot to be released from taxation does not include any improved land and is fully stocked with growing trees, that the land is actually fenced as called for by the law, and that the land will not be pastured. It will be noted that, if the law is administered as this act intends it to be, mere groves cannot be admitted, and the gravest danger to the destruction of reproduction will be removed by the prohibition on pasturing. In the case of steep slopes the affidavit provides for a statement that the fence has been provided and that the owner agrees to the provisions of the law regarding mowing, grazing, burning, and revegetation or reforesting. After the legal filing with the clerk, the assessor is to examine the land to verify the claims made in the affidavit. The assessor is to receive a fee of $2.00 for his work to be paid by the owner. After this the land is to be exempt from taxes as long as the owners comply with the conditions set forth in the law.

The University of Wisconsin has just published a bulletin by the Science Inquiry Committee entitled "The University and the Erosion Problem." It sets forth the responsibility of the University in teaching and research toward solution of erosion and soil conservation problems. It calls attention to the courses offered, irrespective of departments or colleges, which deal with erosion and directs the students' attention to the opportunities for training and possible lines of research and investigation in this field.

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E. W. MOREHOUSE, *Editor*

The New York Accounting Decision

THE decision of the Supreme Court, Appellate Division, of the State of New York, holding illegal certain provisions of the uniform systems of accounts for various utilities promulgated by the Public Service Commission of New York,[1] discloses a poor understanding of regulatory problems in general and of regulatory accounting problems in particular. The decision is especially poignant because it comes from a highly respected judiciary of a most enlightened State. The Court held two major and two minor provisions in the accounting systems illegal.

The first major question deals with a reallocation or redistribution of fixed capital. The classifications of the New York Commission, like the uniform classification of accounts promulgated by the Federal Communications Commission and like that recently recommended by the Committee on Accounts and Statistics of the National Association of Railroad and Utilities Commissioners, provide that fixed capital accounts must always show original cost. Original cost is defined as the cost when first dedicated to public use, and a provision is made for charging any excess of purchase price over original cost to a predecessor, etc., to an account termed "Suspense to be Amortized." The latter account, it is provided, "shall be written off over such period and in such manner as the Commission may by order prescribe." The Court held the provision unconstitutional because it amounted to confiscation. The central theme of the opinion is that the redistribution of fixed capital and the amortization of the suspense account will cause the booking of a loss when a loss is not sustained in fact. "That to be required to show a loss on the books when none has been sustained is arbitrary."

"No proof," says the Court, "was offered by the Commission as to the reason or necessity for requirement that a part of the purchase price of many items of property should be transferred from fixed capital account to a suspense account, from which they were to be charged off when directed by the Commission."

[1] *New York Edison Co. et al v. Maltbie et al*, June 27, 1935.

The reason and necessity for the accounting requirement lie in *Smyth v. Ames* (1898) and in most of the important valuation cases decided by the Supreme Court of the United States since that decision. The Supreme Court has stated and has reiterated that the first element to be considered in ascertainment of fair value is original cost. Public service commissions and their accountants have been justly criticized for their failure to devise systems of accounts which will disclose original cost. It is by the means adopted by the New York Commission and by none other that original cost of properties used and useful in the public service can be ascertained. It is an anomaly indeed for the Court to say original cost must be considered, and then hold void the only means whereby original cost can be determined. The Court's theory of the recognition of a loss where none has occurred is premature. No loss is occasioned by the reallocation or the redistribution of the fixed capital accounts. True enough, a loss may be occasioned if the Commission arbitrarily or capriciously orders the charging off of the suspense account, but certainly the presumption of legality should exist until an abuse of discretion has been shown. The accounting classification itself does not require the recording of the loss prior to its occurrence; any order of the Commission which would produce that result could be successfully attacked. The Court's decision on this question is a far departure from the decision of the Supreme Court of the United States in *State Corporation Commission* v. *Wichita Gas Co.*, 290 U. S. 561 (1933).

The second major question considered by the Court and decided adversely to the Commission is the requirement that the straight-line method of computing depreciation expense be followed. The Court's reasoning on this subject is as strange as it is unscientific.

"The corporation is concerned because if an erroneous method is used and too great a reserve is set up which must be deducted from fixed capital, the rate base is affected adversely; and if the reserve be too small not enough will have been collected from consumers to compensate the property worn out in their service."

Evidently the Court paid considerable heed to testimony of an executive of Henry L. Doherty & Company who advocated retirement reserve accounting and who said, *inter alia*, that the earning situation must be considered in fixing depreciation.

The Court also said the straight-line method of computing depreciation was disapproved by the Supreme Court of the United States in *McCardle* v. *Indianapolis Water Company*, 272 U.S. 400 (1926).

The straight-line method of accounting for depreciation has been recognized and approved by the Interstate Commerce Commission, by the Federal Communications Commission, and has the sanction and approval of long usage by substantially all business organizations in the United States. Occasionally the sinking-fund method or unit-of-output method is encountered in commercial practice, but these instances are so infrequent that, whenever depreciation is spoken of, the straight-line method immediately comes to mind. It is difficult to understand how such a universal *method*, as contradistinguished from *amount*, can be construed as confiscation.

It is just as difficult to understand how the depreciation method can adversely affect the rate-base. The Court's criticism of too much or too little depreciation goes not to the method at all, but to the amount of depreciation, which in many rate cases constitutes a major issue. The recognition of the theory advanced by the executive of a holding company is merely the harking back to the discredited theory of retirement accounting and to the so-called bankers' method (which is not a method at all) of accruing annual depreciation. It is an elementary principle of accounting that earnings should be computed after allowing for depreciation instead of by measuring the depreciation by the amount of earnings.

Finally, the Court misconstrues the decision of the United States Supreme Court in the McCardle case. In that case the Court was not dealing with depreciation expense, neither was it dealing with depreciation method nor the reserve for depreciation. The Court there simply said that the actual condition of the properties, the depreciated condition, could be better ascertained by an inspection of the properties than by computations made solely on an age and life theory. The straight-line method of computing annual accruals to the depreciation reserve was not enjoined in the McCardle case any more than it was required in *Knoxville* v. *Knoxville Water Company*, 212 U. S. 1 (1908).

The two minor issues involved the writing off of capital stock expenses and the accumulation and subsequent writing off of regulatory commission expenses. Both were decided adversely to the Commission.

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"Ready-Made" Residential Electric Consumer Analyses: A Further Note*

IN the August, 1934 issue of this *Journal* the writer submitted an article in which was outlined a short-cut or "ready-made" method for making consumer analyses of residential electric consumptions. The method was premised on the observation that within certain limits the distribution of kilowatt hours into consumption blocks varies with the average consumption in the community or territory analyzed. Therefore, by determining the average consumption of residential bills ranging from zero through 100 kw. hrs. and by making a simple analysis of minimum bills and bills over 100 kw. hrs., the rate analyst has at his disposal a method for making a complete and accurate residential consumer analysis with a minimum of effort and expense.

As stated in the previous article, the method was found to possess a high degree of accuracy when tested and checked by

* *Author's Note:* During the last year a number of test checks have been made of the "ready-made" residential electric consumer analysis outlined in an earlier number of this *Journal* (Vol. X, pp. 232-242). These checks have been based on consumer analysis information obtained from utilities operating in Wisconsin and Illinois. If any further tests have been made based on information obtained from other sections of the country, the writer will appreciate receiving such information.

all available residential consumer analysis information then on file with the Public Service Commission of Wisconsin. Since that time a number of additional tests of accuracy have been made, and it is with these tests that this report is concerned.

Shortly after publication of the article setting forth the "ready-made" method of analysis, the Illinois Commerce Commission submitted residential consumer analyses of a number of communities located in central Illinois. A comparison of the percentage distributions of customers consuming 100 kw. hrs. or less a month with the distribution charts and tables presented in the article gave evidence of a high degree of correlation. The greatest variation between the two sets of figures for the percentage of total kilowatt hours in any one block of 10 kw. hrs. was 3%. Unfortunately, the rates for these communities were on a room-count basis and sufficient information was not available to make a check of the revenues actually received with those which might have been calculated by the "ready-made" method.

Within the last few months the Public Service Commission of Wisconsin has had occasion to employ the "ready-made" analysis in revising the residential rates of two municipally owned utilities. In each case the utility submitted information giving the number of minimum bills, the total kilowatt-hour consumption in such bills, and a list of all bills over 100 kw. hrs. This information, together with data on total residential customers, kilowatt hours, and revenues submitted by each utility in its annual report to the Commission, enabled the Commission's rate analysts to use the "ready-made" analysis method to distribute the residential kilowatt hours of each utility into the various energy blocks. Applying the rates of each utility to the kilowatt hours so distributed, it was found that the annual revenues calculated by the "ready-made" method varied only 0.8% for one utility and 0.9% for the other from the actual residential revenues received by each utility. As was pointed out in the first article, a consumer analysis resulting in a calculated revenue figure which is within 2% of the actual revenues received by the utility is sufficiently accurate to use as a basis for making rate revisions.

Recently the Commission has designed a new residential electric service rate for the Oconomowoc Electric Department, a municipal utility serving approximately 1,200 residential customers from whom it obtains revenues of about $37,000 annually. Upon request the Commission received the following information from the utility for the 12-month period ending August 31, 1935:

Number of Bills	
Bills of 100 kw. hrs. and less	11,599
Bills over 100 kw. hrs.	2,759
Total bills	14,358
Minimum bills	1,899
Number of Kilowatt Hours	
Kw. hrs. in bills of 100 kw. hrs. and less.	405,007
Kw. hrs. in bills over 100 kw. hrs.	608,765
Total kw. hrs.	1,013,772
Kw. hrs. in minimum bills	21,558

Dividing 405,007 kw. hrs. by 11,599, we find that the average consumption of all residential bills of 100 kw. hrs. or less is 34.9 kw. hrs. Making use of the figures presented in Table III and Chart III of the "ready-made" analysis article for an average consumption of 34.9 kw. hrs., we find that the residential kilowatt hours of the Oconomowoc utility are distributed into various blocks as follows:

Blocks (Kw.Hrs.)	Bills 0-100 Kw. Hrs.		Bills over 100 Kw. Hrs.	Total (Kw. Hrs.)
	Percentage Distribution	Actual Distribution	Actual Distribution	
0-25	61.8%	250,294	68,975	319,269
26-50	27.5	111,377	68,975	180,352
Over 100	10.7	43,336	470,815	514,151
Total	100.0	405,007	608,765	1,013,772

On the basis of this information, the utility's revenues for the 12-month period ending August 31, 1935 were calculated as follows:

1,899 minimum bills at 80c net per bill (21,558 kw. hrs. in min. bills)	$ 1,519
First 25 kw. hrs. 297,711 kw. hrs. @ 6c net per kw. hr.	17,863

Next 25 kw. hrs.	180,352 kw. hrs. @ 4c net per kw. hr.	7,214
Over 50 kw. hrs.	514,151 kw. hrs. @ 2c net per kw. hr.	10,283
Total	1,013,772 kw. hrs.	$ 36,879

The revenues determined above are figured on a net basis. The utility had available the total revenue from all net residential bills issued during the 12-month period. This figure was found to be $36,868, which is only $11 or .03% less than the figure determined by the "ready-made" analysis method.

Because the bottom step of the Oconomowoc rate included all consumption in excess of 50 kw. hrs., no separate analysis of bills over 100 kw. hrs. was required to make the above computations. In designing a new rate, however, bills over 100 kw. hrs. were classified into two groups, those from 100 to 200 kw. hrs. and those in excess of 200 kw. hrs. The work involved in this analysis was relatively easy in comparison with the work which would have been required had a complete analysis been made of each of the utility's 14,000 bills.

These checks indicate the substantial accuracy of the "ready-made" consumer analysis method in the case of residential service.

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New Gas House-Heating Rates in Wisconsin

THE Public Service Commission of Wisconsin recently accepted for filing new gas house-heating rates which include a provision for automatic adjustments in the rate when the price of competitive fuel changes. In these rates the price of gas in excess of 10,000 cu. ft. monthly (52 therms) varies between minimum and maximum limits, dependent upon the price of fuel oil. The minimum price, which is 40c per MCF (5.2 therms) in Milwaukee and suburbs and 45c in Madison, will prevail so long as the price of fuel oil remains at the present level. If the price of oil increases, the price of house-heating gas will increase 1c per MCF for every two-tenths of a cent increase per gallon in oil prices. The maximum prices of house-heating gas are the rates in effect just previously to the new filing. In view of the character of the new rates, the Commission accepted these as experimental rates for a period of one year, subject to extension on the basis of the results in the test period.

The companies filing these rates are Milwaukee Gas Light Company, Madison Gas and Electric Company, and several companies serving suburbs of Milwaukee. These companies are all subsidiaries of American Light and Traction Company.

The principle of varying the rate for house-heating gas on the basis of the price of a competitive fuel is new in the Middle West. In a rather hasty review of rates throughout the country, domestic gas house-heating rates containing this principle were found to be in effect in California cities served by Pacific Gas and Electric Company and associated companies, in numerous cities in Massachusetts, and in a few cities in New Hampshire, Rhode Island, Connecticut, and Washington. This principle was introduced in most cases in 1934 and 1935, although there were a few cases of such rates being filed in 1933, and in one group of Massachusetts cities in 1931. This early filing of a competitive fuel price adjustment clause in domestic house-heating rates was based on a combination of oil and anthracite coal prices, being later changed to the basis of oil prices only. The principle of automatic variation in gas rates with changes in oil prices to customers is also found in large industrial gas rates in effect in numerous California cities; a few cities in New York; San Antonio, Texas, and New Orleans, Louisiana.

The preceding discussion has been concerned with schedules which provide for variations in the rates for gas on the basis of competitive prices of fuel oil to customers. Numerous gas rates are in effect throughout the country providing for variations in rates with the cost of oil or coal to the utility. This latter type of variation is comparable with the common practice in electric rates for wholesale and large power customers of providing automatic variations in rates dependent on the price of fuel to the utility. It is possible that some of the fuel cost clauses in gas rates were intended, in part at least, to result in variations in

rates to customers commensurate with changes in competitive fuel prices.

The recently filed Wisconsin gas house-heating rates provide for a variation of 5c per MCF (5.2 therms) with each 1c change in the price of oil per gallon. In the other schedules noted (excluding California cities, Tacoma, and other cities in Washington served by the same company) house-heating gas varies either 5c or 4c per MCF with a change of 1c per gallon in oil prices. In the case of Tacoma, a 1c change in oil prices is reflected in an 8c per MCF change in the rate for house-heating gas. In the California rate schedules, the variation is about 3.1c per 5.2 therms of gas with each 1c per gallon change in oil prices. The unusual relationship in the California schedules probably results because the oil clause in the domestic house-heating rates was borrowed from the industrial gas rates. In the cities studied, outside California, the gas served has a heat content ranging from 5.0 therms to 5.35 therms per MCF, excepting for Portsmouth, New Hampshire, where this factor is 5.65 therms. In California, natural gas having a heat content of 11 to 12 therms per MCF is served.

The relationships between gas and oil prices in the rate schedules turn on the relative quantities of gas and oil required for comparable house-heating installations. Such data as are available on the subject indicate that 4 to 5 gallons of oil are required to equal 1,000 cu. ft. of gas (5.2 therms) for house-heating purposes, with the average falling between 4¼ and 4½ gallons. It thus appears that where a 1c per gallon increase in oil prices results in 5c or more increase in gas rates per MCF (5.2 therms), the margin between oil and gas costs for house-heating will increase if oil prices rise. Where the relationship is 4c or less per MCF of gas to 1c per gallon of oil, the margin will be narrowed if oil prices increase. These statements are based on an assumption that the present cost of gas for house-heating is greater than for oil.

It should be mentioned that in Oregon the principle of automatic variation in house-heating gas rates with changes in competitive fuel prices has been disapproved (*Re Portland Gas and Coke Company*, 2 P.U.R. (NS) 277, Nov. 17, 1933). In this decision it was stated: ". . . . . the statute provides the method by which the company may increase or decrease its rates, and there appears to be no good reason for permitting such competitive fuel price clause to be filed."

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A Bibliography on Utility Holding Companies*

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*Note: This bibliography has been prepared to make available the current materials on holding companies, and is primarily a compilation of periodical literature. It brings down to date (October 15, 1935) the list which was appended to the *Report*, Federal Trade Commission, No. 69-A (Washington: Government Printing Office, 1934) and which was complete as of October 12, 1934. It includes also some few important references between that time and the publication of an earlier bibliography in 5 *Journal of Land & Public Utility Economics* 225–228 (May, 1929).

The list of Public Documents given here is not exhaustive but represents only the major materials from *federal* sources. No attempt has been made to include the voluminous materials which have appeared in the *Congressional Record*.

For recent *state* enactments on holding companies the reader is referred to two articles in this *Journal*: "Public Utility Legislation in the Depression: I. State Laws Extending and Strengthening Commission Jurisdiction," 11 *Journal of Land & Public Utility Economics* 173–186 (May, 1935) and "Public Utility Legislation in the Depression: III. State Laws of 1935," *Ibid.*, pp. 390–9 (November, 1935).

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Book Review Department

Urban Land

Hardy, Charles O., and Kuczynski, Robert. THE HOUSING PROGRAM OF THE CITY OF VIENNA. *Washington, D. C.: The Brookings Institution, 1934. pp. xii, 153. $2.*

How a poverty stricken city provided new homes for ⅛ of its people and paid for the entire program out of current taxes is the dramatic story told by Charles O. Hardy in *The Housing Program of the City of Vienna.* Beginning with a description of the notoriously bad housing conditions in Vienna before the war and the political situation which fostered and maintained them over a long period of years, Mr. Hardy proceeds to show how, following the war, an acute shortage, heaped on old abuses, ushered in a Marxian party pledged to the ideal of free housing for all whose demand did not exceed the normal living standard of the community.

While this ideal of absolutely free housing was never realized, the Social Democrats did, over a 15-year period, carry out a program that involved the writing off of capital costs immediately following construction and the charging of operating costs alone to rent. Mr. Hardy discusses the various phases of the municipal building program and the accomplishments under each. He devotes an entire chapter to financial aspects and one to the administration of the program.

Vienna's housing program came to an end when, to quote Mr. Hardy, "in February 1934 Dolfuss' heavy artillery knocked at the doors of the Karl Marx Hof to announce the end of one of the most elaborate and carefully thought-out programs of municipal social service which modern history records." However, little actual destruction of property occurred and the living standards of the people of Vienna are today infinitely better than they were when the Social Democrats came into power in 1919.

Like all publications of the Brookings Institution, this is a careful and thorough piece of work. The facts are presented faithfully, dispassionately, and in meticulous detail. Their interpretation in the chapter entitled "Conclusions" is that of a self-confessed conservative who cannot accept the socialistic doctrine upon which Vienna's housing program was founded.

The story of "the greatest single house building program on record" is interesting reading for itself. Moreover, Vienna's record of accomplishment should give encouragement in our own undertakings. But the conditions out of which Vienna's vast housing program grew and the methods by which it was financed and carried out are peculiar to Vienna and do not go far to clarify thinking in our own situation.

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Black, Russell Van Nest. BUILDING LINES AND FUTURE STREETS. *Cambridge: Harvard University Press, 1935. pp. xii, 243.*

There are two vital steps to be taken by every city which desires in time to achieve a satisfactory thoroughfare plan for present and future traffic needs. The first is the mapping and protection of streets through present unsubdivided areas so that all new streets hereafter laid out will conform, both as to location and width, to the permanent requirements of the community. The second is the establishment and maintenance of building lines upon existing streets at present too narrow to meet the demands of present and prospective traffic loads so that buildings hereafter erected will not encroach upon the minimum space needed between buildings for street purposes. Both of these subjects are discussed by Mr. Black in his recent book published as a volume in the Harvard City Planning Studies.

Mr. Black has shown considerable industry in compiling a vast amount of information on these two problems. However, the value of the book is somewhat impaired by the fact that at times he fails to maintain a proper distinction between the differences involved between a widening of existing streets and a protection of projected streets in unbuilt areas. The study would also have gained in emphasis if the subject matter had been better digested and arranged topically rather than by cities. But despite these and other shortcomings

Mr. Black's effort is to be hailed as a real contribution to the literature on a very technical phase of city planning administration. We cannot have too many serious studies on such important subjects as this if we are to develop our administrative technique in city planning.

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Land Resources

LAND UTILIZATION IN MINNESOTA. Final Report of Committee on Land Utilization, appointed by Gov. Floyd B. Olson. *Minneapolis: University of Minnesota Press, 1934. pp. xiv, 289. $1.50.*

The occasion for the appointment by Governor Olson in 1932 of the Committee on Land Utilization and for the preparation of the report, *Land Utilization in Minnesota*, is the economic situation in 16 cut-over counties of northern Minnesota. Of a total of 19,000,000 acres (the unplatted land area) in these counties in 1931, taxes were being paid on only 44%. The remaining 56% included 3,815,000 acres of public land and 6,831,000 acres of tax delinquent land privately owned. In four counties 70% or more of the land was not paying taxes. In 1936, it is expected that the State will come into possession of nearly 7,000,000 acres of tax delinquent land, and, in the opinion of the authors, 12,000,000 acres will have reverted by the end of the next 10-year period.

Economic and social conditions in these cut-over areas are characterized by sparse population, isolated settlement, large mileage of roads per capita and small mileage per square mile, large public debts, low property valuations, small and insecure incomes, urgent demand for federal relief, low standard of living, high ratios of mortgage foreclosures to loans, low reserves in the form of savings and property accumulations, and few doctors, nurses, and hospitals.

Nearly 24 times as much saw timber is cut as is replaced by growth. Under present conditions of use the relatively high grade iron ore in Minnesota will be practically gone in 35 years. Northern Minnesota will thus soon face the necessity of finding new tax sources.

Recommendations for adjustment include proposals for water and soil conservation; preservation of forests for watershed protection; the dedication of more than 3,000,000 acres to recreational use and 10,000,000 acres for constructive forestry; exchange of state owned land in better farming districts for scattered tracts in unsuccessful drainage projects; state control of water power development; changes in the tax system to permit companies to husband their resources without being penalized; the curbing of extravagant public spending of tax income in mining areas; the setting up of a trust fund during periods of high production for payment of public expenses in the lean years which follow exhaustion of resources; state support for codification of state land laws; discontinuance of extensions of time for redemption of lands after five years of delinquency; state control of counties and townships as to accumulation of public debt; study and reorganization of state aid in local services in order that such aid may serve the ends of a sound land policy. Important lines of research have also been recommended in the interests of fostering such a policy.

The report, though modestly claimed to be only a preliminary and broad one, is well written and backed by a large amount of pertinent information and well organized analysis.

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Public Utilities

Bauer, John and Gold, Nathaniel. PUBLIC UTILITY VALUATION FOR PURPOSES OF RATE CONTROL. *New York: Macmillan Co., 1934. pp. xxii, 477. $3.50.*

This book, part of a general study of legal valuation under the direction of Professor James C. Bonbright of Columbia University, is an excellent and stimulating discussion of the complex problem of public utility valuation for purposes of rate control. The authors have represented the public side in rate controversies and this is the point of view from which the subject is presented. The definition of public utilities as " . . . those concerns . . . which are or can be subjected to control by government as to character of output and prices charged for their products or services" is so broad as to include almost any business. While regulation will probably be extended considerably beyond present limits, the term public utility has to most people a rather

definite meaning and an extension to such broad limits seems hardly justified at this time.

The scope of the book has been sufficiently limited so that a more complete presentation of the subject is possible than has been the case in other works of a more general character. The authors are to be commended for the emphasis which is repeatedly placed on the differentiation between "fair value", or rate-base, and value in the commercial sense, the lack of such differentiation being at the bottom of so much confusion on the part of both commissions and courts in dealing with the problem of the rate-base.

At the outset the fact is recognized that, while regulation of local utilities is technically a legislative function of the states, the fundamental basis for, and the limits of, regulation have been determined almost entirely by the United States Supreme Court under the due process clause of the Constitution. Much space is therefore devoted, and properly so, to a discussion and interpretation of the leading decisions of the United States Supreme Court in public utility cases. The first of the three major parts of the book, which deals with the subject from a historical point of view, is a very skillful and enlightening analysis of the many and frequently contradictory trends and countertrends which have marked the period especially from *Smyth* v. *Ames* to the present time.

The second part of the book is a presentation of the complications involved in present valuation procedure and reflects the experience of the authors in actual rate cases. It is in some measure a restatement of matters covered in the first part but deals more specifically with the different elements to be considered in arriving at the rate-base. A chapter on depreciation is based chiefly on the Knoxville Water case, but the subject is treated with rather less than the authors' usual skill.

The otherwise competent discussion of working capital apparently does not take into account the Los Angeles Gas & Electric decision in which the commission made an allowance for working capital on the basis of the cost of gas to the company (wholesale price) rather than on the selling price of the gas which would be a larger amount represented as accounts receivable in current assets. This method was specifically upheld by the District Court and the allowance made on that basis was confirmed by the United States Supreme Court.

The chapter on land values is based principally on the Minnesota Rate Cases. This has reference more particularly to the railroads since the value of land is usually a minor item in the rate-base of other utilities. The contention that the later practice of commissions and courts in applying the rule of adjacent land value to other utilities has no real basis in the decision in the Minnesota Rate Cases is not entirely convincing.

The chapter on going concern value is one of the best in the book and will be useful in pointing out and emphasizing the circuity of reasoning almost always present in the allowance of an overall percentage for going concern value by commissions and courts. In words of the authors, this "constitutes rank imposition upon the public and can not be called in any sense fair value."

The third part of the book is largely a restatement of the material embodied in Mr. Bauer's earlier book *Effective Regulation of Public Utilities* and the *Minority Report of the New York Legislative Committee for the Revision of the Public Service Commission's Law*, in which Mr. Bauer collaborated with Mr. Bonbright. Stated briefly, the authors argue the case for a fixed rate-base based on "prudent investment" and prescribe a plausible method of transfer from the present "fair value" to "prudent investment." There is a natural tendency to overstate their case to some extent in assuming that a fixed rate-base will cure all or most of the ills of regulation. All those who are interested in regulation from the public point of view will agree that the present method of determining fair value is extremely unsatisfactory and unworkable, and that greater definiteness must be achieved in some manner if regulation of utilities is to succeed as a permanent part of our system of government. Messrs. Bauer and Gold have done a real service in focussing the spotlight on this sore spot of regulation in their competent and well rounded discussion of the subject.

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